

From: [Johnson, Brent](#)
To: ["CENAO.REG_ROD@usace.army.mil"; JPA.permits@mrc.virginia.gov; "Steven.A.Vanderploeg@usace.army.mil"; Justin Brown; "Lynn Klappich"; Miller, Hannah](#)
Subject: Impact Permit Submission
Date: Tuesday, September 1, 2020 5:09:06 PM

All,
The link below contains the impact permit application for the Green Ridge Facility in Cumberland County. Please do not hesitate to contact me with any questions.
Thank you,

<https://kbjw.sharefile.com/d-s185f821f8dd4d1bb>

Brent E. Johnson P.E., P.G., AOSE
Vice President – Geotechnical & Environmental



Celebrating 30 Years in Business

11901 Old Stage Road
Chester, VA 23836
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**Joint Permit Application
Green Ridge Recycling and Disposal Facility
Permit No. (Pending)
Cumberland County, Virginia**



<u>Prepared for:</u> Green Ridge Recycling and Disposal Facility 12230 Deer Grove Road Midlothian, VA 23112	<u>Compiled by:</u> Koontz Bryant Johnson Williams 11901 Old Stage Road Chester, VA 23836
<u>Submitted for review to:</u> Army Corps of Engineers Norfolk District 803 Front Street Norfolk, VA 23510	

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I. JURISDICTIONAL DETERMINATION

Enclosed is the official approval for the pre-jurisdictional determination, issued on August 22, 2019 (NAO-2018-0995), of the wetland delineation of the Green Ridge Facility. The official wetland delineation map is included for reference.



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

August 22, 2019

PRELIMINARY JURISDICTIONAL DETERMINATION

Western Virginia Regulatory Section
NAO-2018-0995 (Muddy Creek)

CWV LLC
C/o James Martin
P.O. Box 363
Cobbs Creek, Virginia 23035

Dear Mr. Martin:

This letter is in regard to your request for a preliminary jurisdictional determination for waters of the U.S. (including wetlands) on project know as Green Ridge. The approximately 1300 acre project is located, north of US Route 60, Anderson Highway, near the intersection of Pine Grove Road, in Cumberland County, Virginia.

The map entitled "Wetland Delineation Map, Cumberland County, Virginia, Hamilton District", by Koontz Bryant Johnson Williams Group dated July 10, 2018 with a revision date of May 10, 2019 and Corps date stamped as received May 31, 2019 (*copy enclosed*) provides the locations of waters and/or wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Easter Mountain and Piedmont Region and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

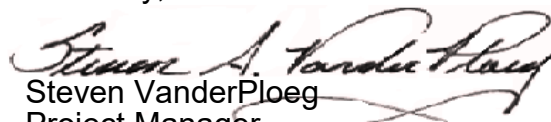
This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the

determination, or you may request and obtain an approved jurisdictional determination. This preliminary jurisdictional determination and associated wetland delineation map may be submitted with a permit application.”

Enclosed is a copy of the “Preliminary Jurisdictional Determination Form”. Please review the document, sign, and return one copy to this office, either via email at steven.a.vanderploeg@usace.army.mil or via standard mail to US Army Corps of Engineers, Regulatory Office, and ATTN: Steven VanderPloeg 9100 Arboretum Parkway, Suite 235, Richmond Virginia 23510 within 30 days of receipt and keep one for your records. This delineation of waters and/or wetlands can be relied upon for no more than five years from the date of this letter. New information may warrant revision.

If you have any questions, please contact Steven VanderPloeg either via telephone at (804) 323-7071 or via email at steven.a.vanderploeg@usace.army.mil .

Sincerely,


Steven VanderPloeg
Project Manager
Western Virginia Regulatory Section

Enclosure(s):
Delineation Map
Preliminary Jurisdictional Determination Form

Cc: Mr. Brent Johnson Koontz Bryant Johnson Williams Group
Justin Brown, Virginia Department of Environmental Quality

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 8/23/2019

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

CWV Land Acquisition, LLC, C/o James Martin P.O. Box 363 Cobbs Creek, Virginia 23035

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

NAO-2018-0995 CWV LLC - Pine Grove Road - Green Ridge

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Virginia County/parish/borough: Cumberland City: N/A

Center coordinates of site (lat/long in degree decimal format): 37.584008, -78.113498

Lat.: xx.xxx° Long.: yy.yyy°

Universal Transverse Mercator:

Name of nearest waterbody: Muddy Creek and Maple Swamp Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): 7/27/2018 & 8/23/2018

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
SA	37.559960	-78.132433	5210 LF	Non wetland waters	404
WA	37.559960	-78.133166	1.91 Ac	Wetland waters	404
SB	37.554453	-78.133166	3651 LF	Non wetland waters	404
WB	37.554453	-78.133166	0.3 Ac	Wetland waters	404
SC	37.550000	-78.140000	3290 LF	Non wetland waters	404
WC	37.550000	-78.140000	6.6 Ac	Wetland waters	404

Site Number	Latitude	Longitude	Estimated amount of aquatic resource (Acreage and linear feet)	Type of aquatic resource	Geographic Authority to which resource "may be" subject
SD	37.561240	-78.128110	5562 LF	Non wetland waters	404
SE	37.571944	-78.121921	11801 LF	Non-wetland waters	404
WE	37.571944	-78.121921	10.6 Ac	Wetland waters	404
SG	37.569718	-78.114311	10427 LF	Non wetland waters	404
WG	37.569718	-78.114311	3.9 Ac	Wetland waters	404
SH	37.580000	-78.130000	2609 LF	Non wetland waters	404
WH	37.580000	-78.130000	8.2 Ac	Wetland waters	404
SJ	37.554954	-78.110977	2333 LF	Non wetland waters	404
SK	37.550114	-78.113976	5456 LF	Non wetland waters	/404
WK	37.550114	-78.113976	0.4 Ac	Wetland waters	404
SL	37.55110	-78.108852	930 LF	Non wetland waters	404
WL	37.55110	-78.108852	2.1 Ac	Wetland waters	404
SMF	37.574685	-78.128520	11780 LF	Non wetland waters	404
WMF	37.574685	-78.128520	21.4 Ac	Wetland waters	404
SO	37.580490	-78.115965	3447 LF	Non wetland waters	404
WO	37.580490	-78.115965	11.3 Ac	Wetland waters	404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

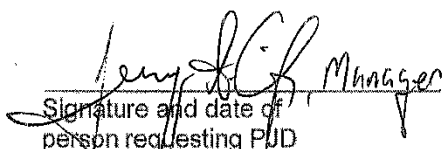
Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: KBJW Group
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____
- ☐ Data sheets prepared by the Corps: _____
- ☐ Corps navigable waters' study: _____
- ☒ U.S. Geological Survey Hydrologic Atlas: _____
- ☐ USGS NHD data.
- ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1"=24,000' - Whiteville
- ☒ Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey 2019
- ☒ National wetlands inventory map(s). Cite name: _____
- ☐ State/local wetland inventory map(s): _____
- ☐ FEMA/FIRM maps: _____
- ☐ 100-year Floodplain Elevation is: _____. (National Geodetic Vertical Datum of 1929)
- ☐ Photographs: ☒ Aerial (Name & Date): Corps GIS, Google Earth 2019
or ☐ Other (Name & Date): _____
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

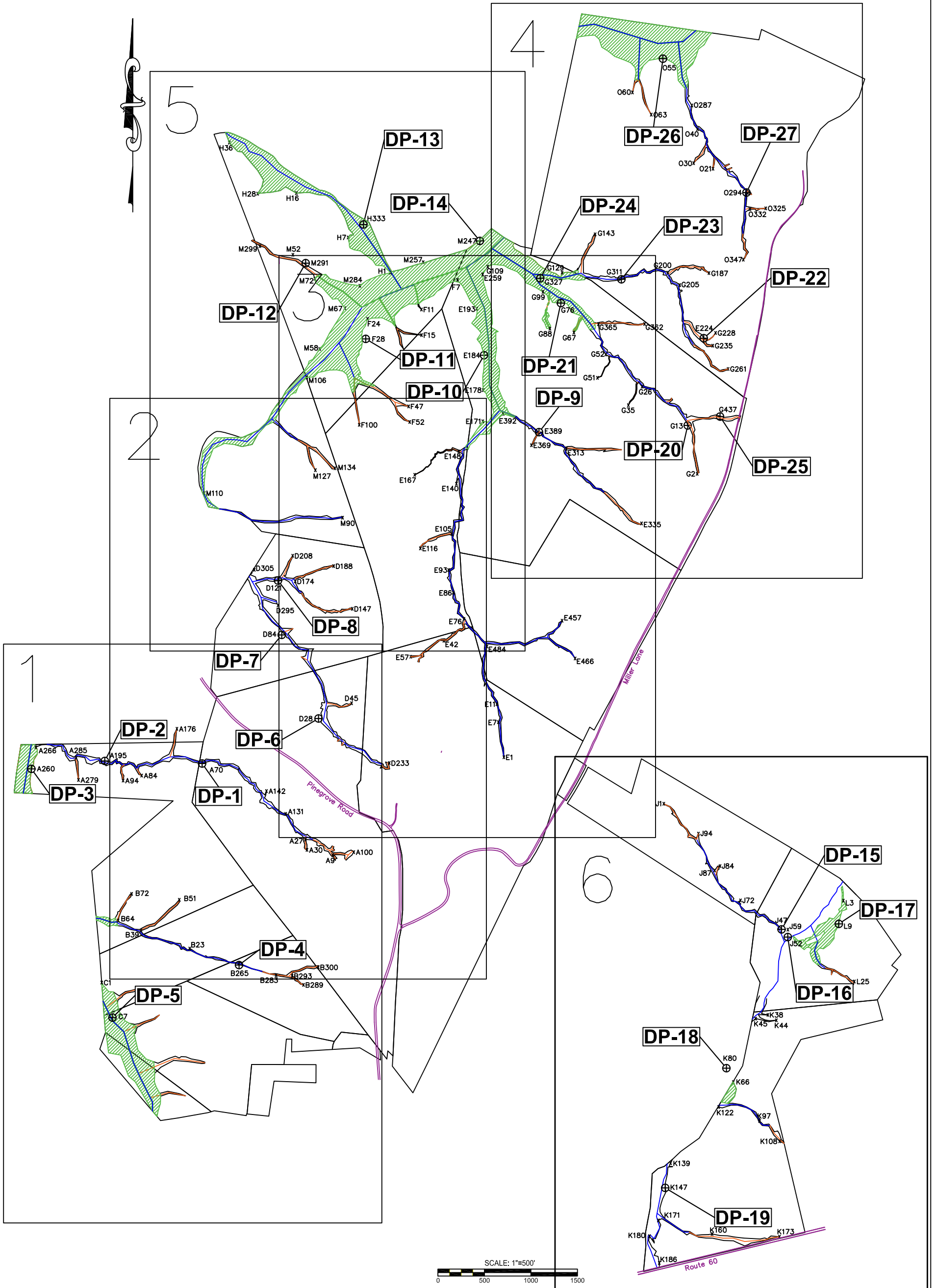
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369252
Date: 2019.08.26 17:56:01 -04'00'




Signature and date of
Regulatory staff member
completing PJD


Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

8/27/2019

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Legend		
Color	Classification	Total Area Quantities
	PFO Wetlands	51.63 acres
	R3/R4 Streams	45,213 LF
	EPH Ephemeral Channel	24,235 LF

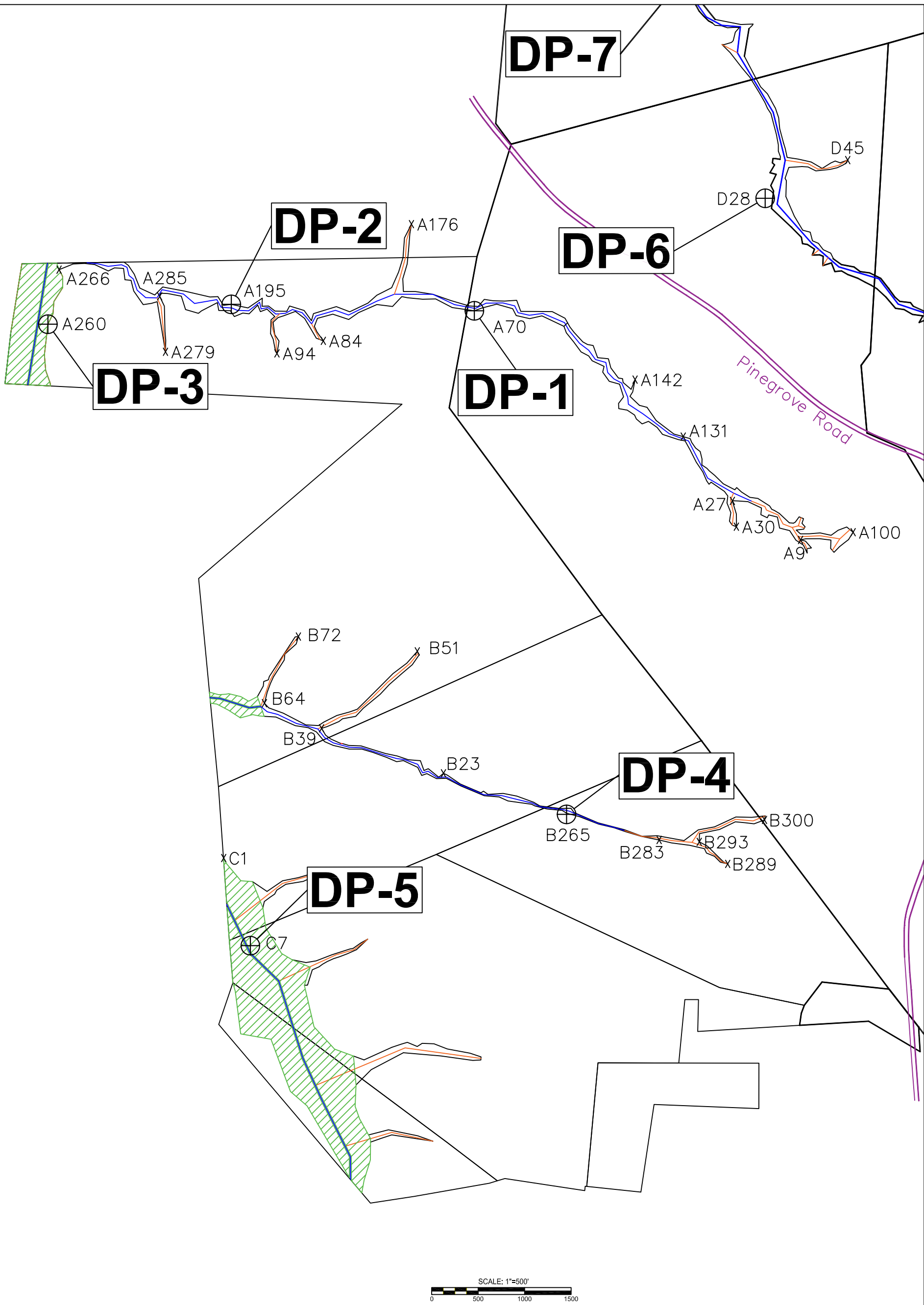
WETLAND DELINEATION MAP **CUMBERLAND COUNTY, VIRGINIA** **HAMILTON DISTRICT**




PROJECT: 2017-890	DATE: Aug 22, 2018	REVISED May 31, 2019	SCALE: 1" = 500'
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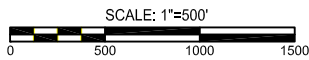


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Legend		
	Color	Classification
		PFO Wetlands
		R3/R4 Streams
		Area Quantities
		62.24 acres
		45,213 LF
		23,579.41 LF
		EPH Ephemeral Channel



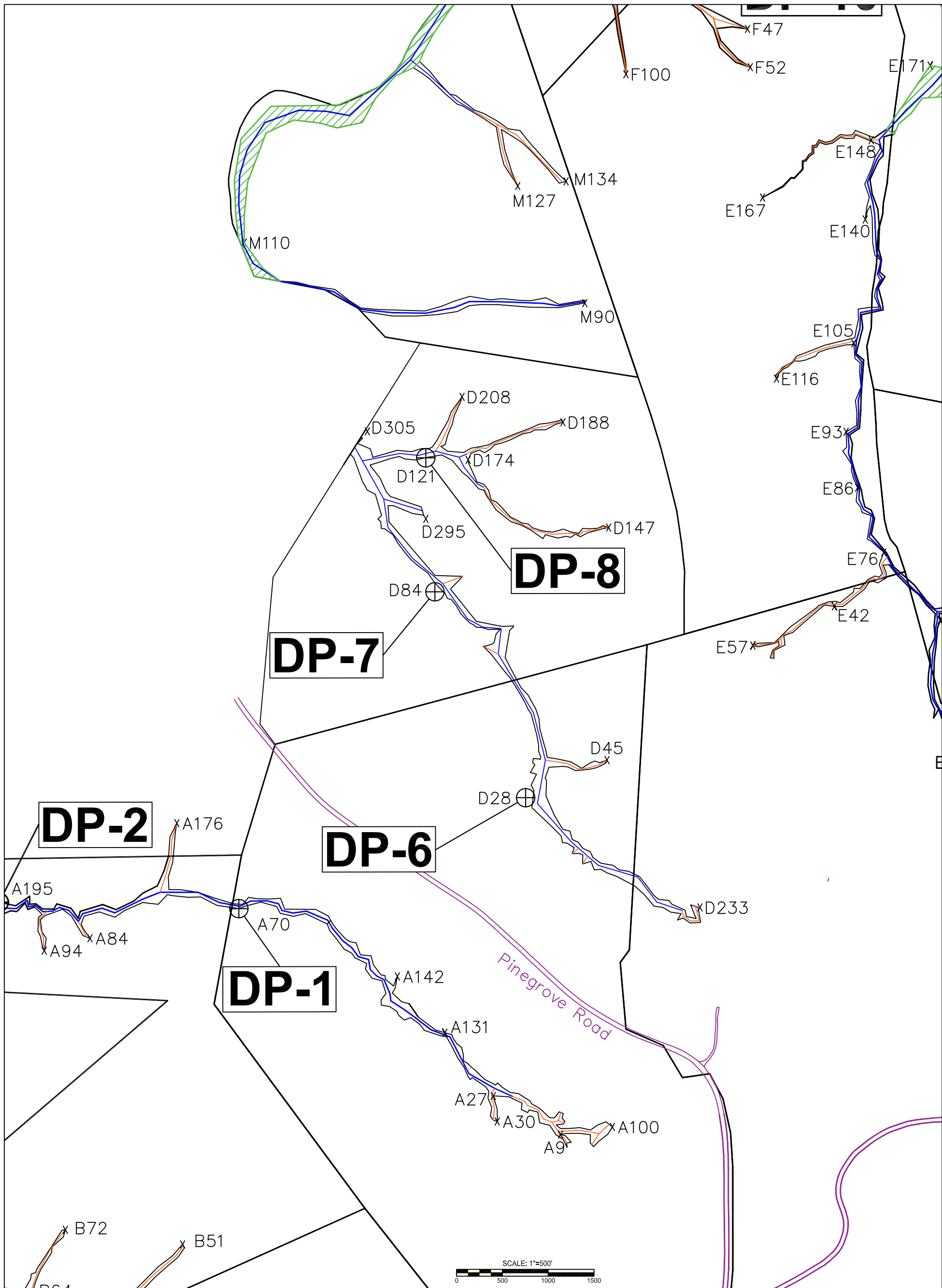
SECTION 1
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT




PROJECT: 2017-890	DATE: July 10, 2018	REVISED May 10, 2019	SCALE: 1" = 500'
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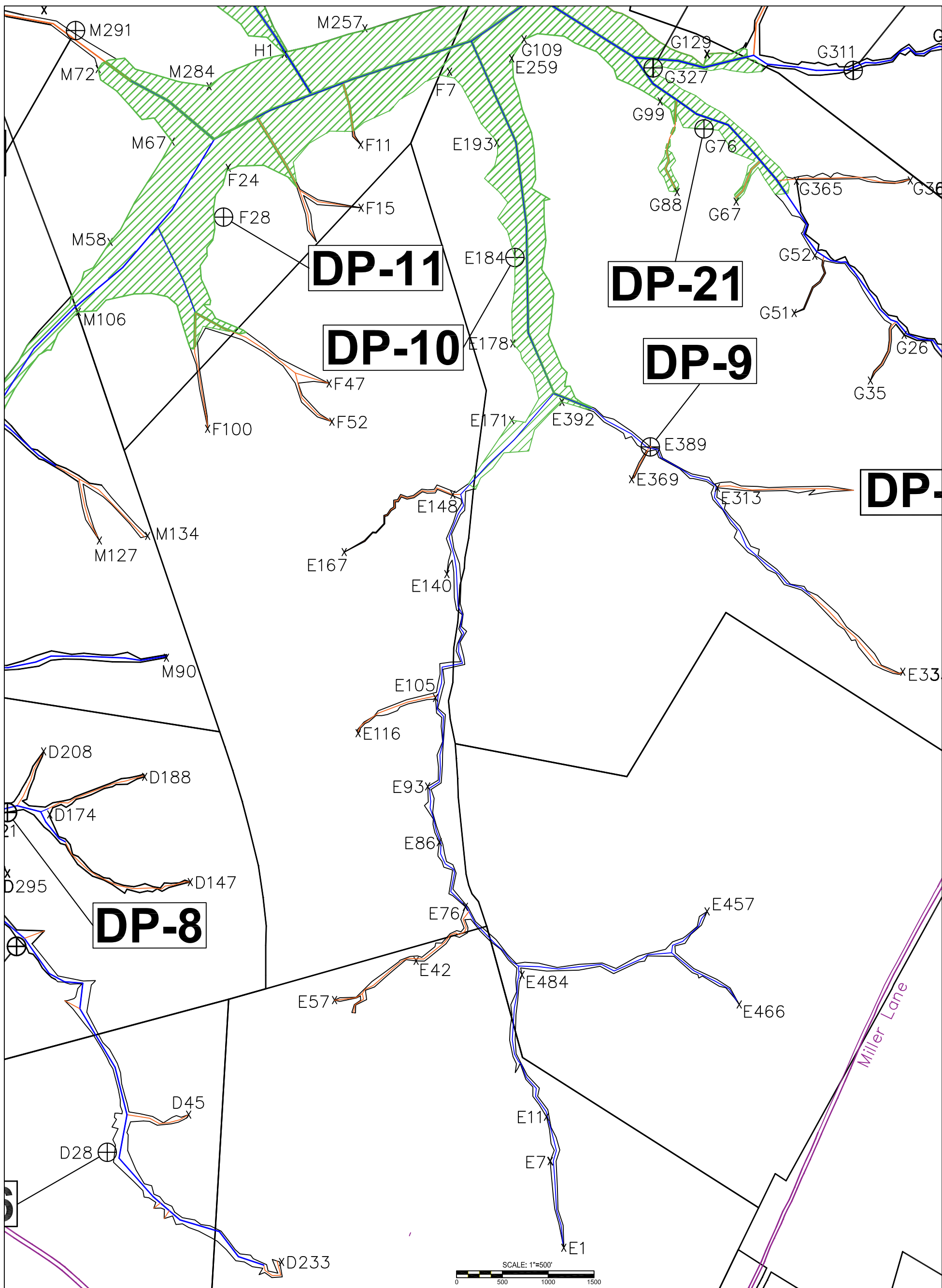
Legend		
	Color	Classification
		
		
		Area Quantities
		PFO Wetlands
		R3/R4 Streams
		EPH Ephemeral Channel




SCALE: 1"=500'

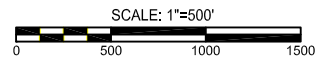
SECTION 2
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

PROJECT: 2017-890	DATE: July 10, 2018	REVISED May 10, 2019	SCALE: 1" = 500'
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Legend		
	PFO Wetlands	62.24 acres
	R3/R4 Streams	45,213 LF
	EPH Ephemeral Channel	23,579.41 LF

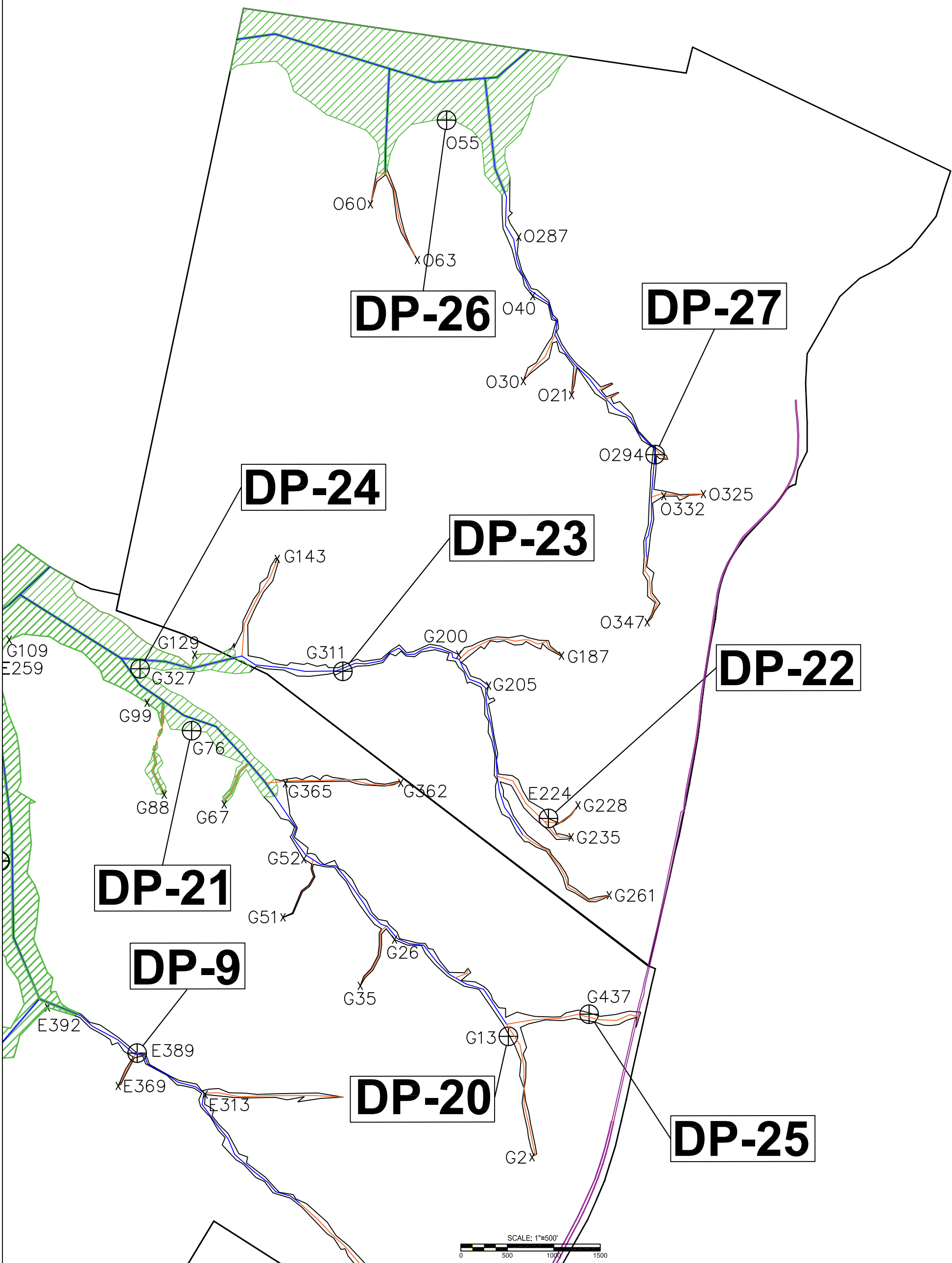





SECTION 3
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

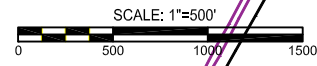
PROJECT: 2017-890	DATE: July 10, 2018	REVISED May 10, 2019	SCALE: 1" = 500'
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Legend		
	Color	Classification
		PFO Wetlands
		R3/R4 Streams
		Area Quantities
		62.24 acres
		45,213 LF
		23,579.41 LF
		EPH Ephemeral Channel

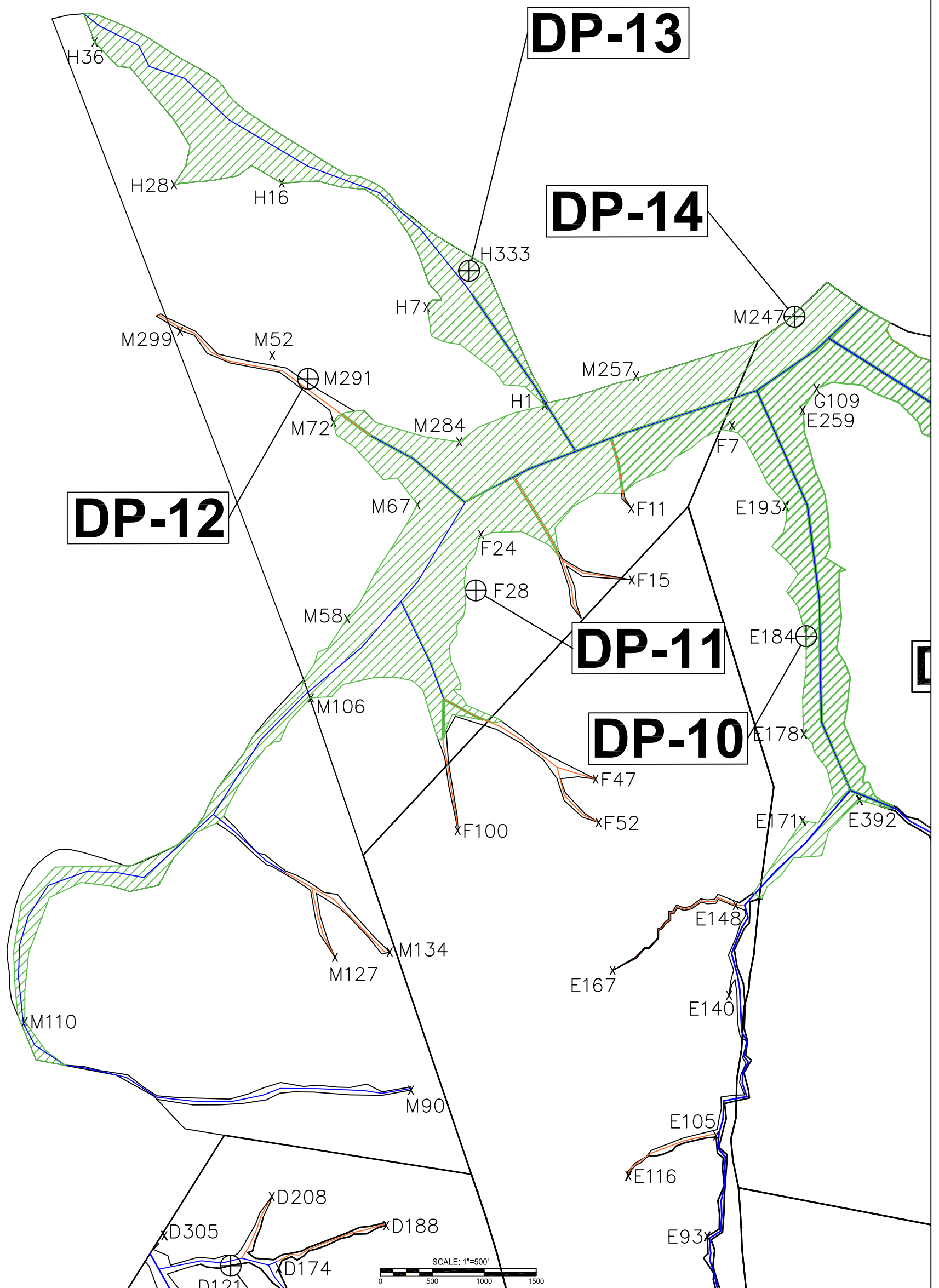






SECTION 4
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

PROJECT: 2017-890	DATE: July 10, 2018	REVISED May 10, 2019	SCALE: 1" = 500'
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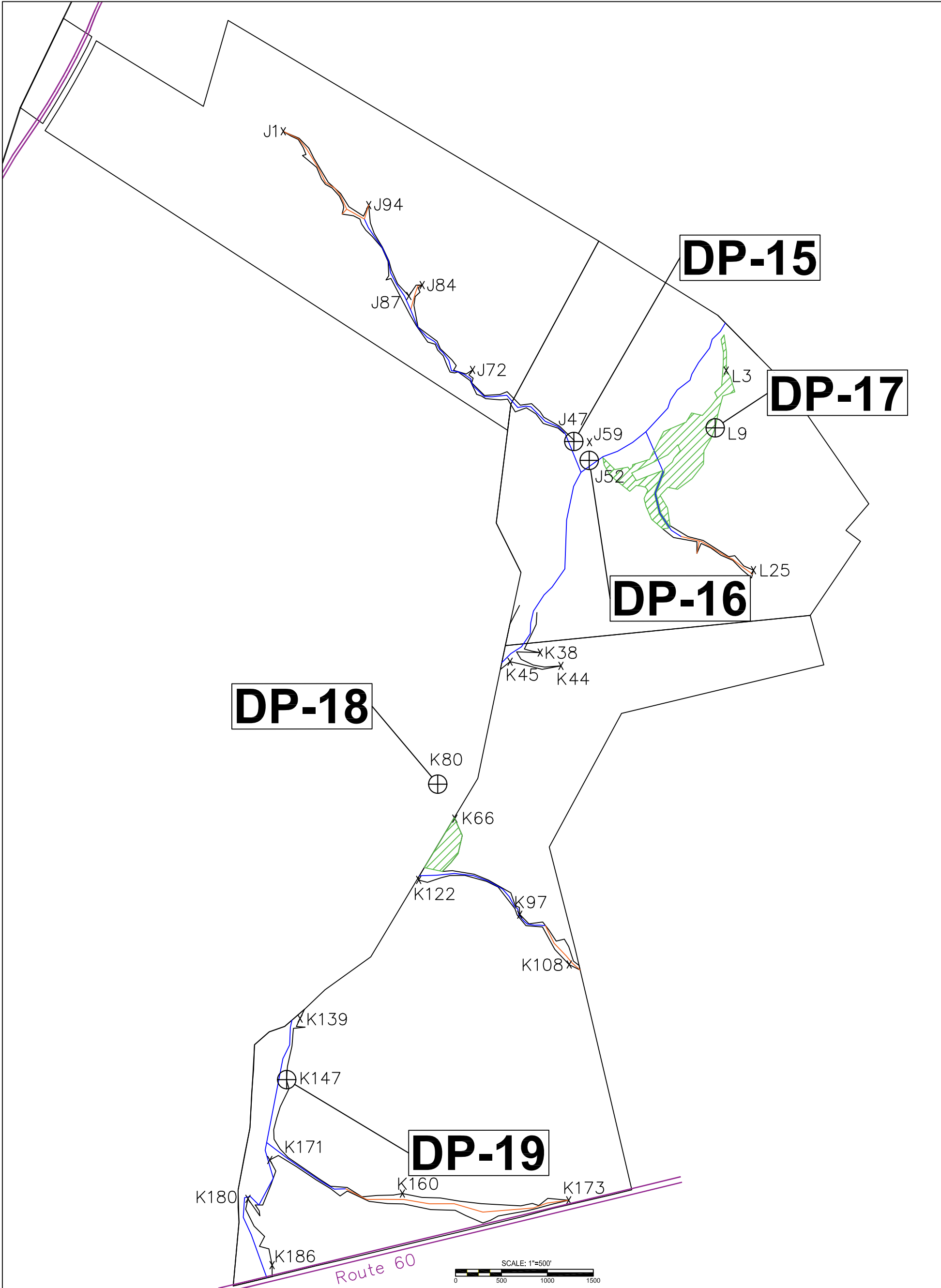
Legend		
	Classification	Area Quantities
	PFO Wetlands	62.24 acres
	R3/R4 Streams	45,213 LF
	EPH Ephemeral Channel	23,579.41 LF

SECTION 5
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

PROJECT: 2017-890	DATE: July 10, 2018	REVISED May 10, 2019	SCALE: 1" = 500'
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Legend		
<div></div>	Color	Classification
<div></div>		Area Quantities
<div></div>		
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SECTION 6
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

PROJECT: 2017-890	DATE: July 10, 2018	REVISED May 10, 2019	SCALE: 1" = 500'
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**KOONITZ BRYANT
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II. INDIVIDUAL PERMIT APPLICATION

Enclosed is Form ENG 4345, published in February 2019 by the Army Corps of Engineers. This application is a request for an Individual Permit for the project known as the Green Ridge Recycling and Disposal Facility located in Cumberland County, Virginia. All relevant information has been provided within the application package included with Form ENG 4345.

**NOTICE OF INTENT FOR A PERMIT APPLICATION
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC
CUMBERLAND COUNTY, VIRGINIA
PERMIT NO. To be assigned by ACOE**

2.1 Introduction

The Green Ridge Recycling and Disposal Facility, LLC (Green Ridge) is seeking an Individual Permit (IP) for a sanitary landfill (the Facility) to be located in Cumberland County. The site of the proposed Facility consists of approximately 1,178+ acres, of which approximately 238 acres will be used for disposal. The site is located in Clinton, Virginia, north of U.S. Route 60 (Anderson Highway), and loosely bounded by Route 654 (Pinegrove Road) and Route 685 (Miller Lane). (Latitude: 37°34'00"North; Longitude: 78°07'20"West). The site lies entirely within Cumberland County with Powhatan County sitting on the border to the east.

The proposed site is composed of the combination of 16 parcels, which are now directly owned by the Green Ridge Recycling and Disposal Facility, LLC. The majority of the property was formerly owned by American Timberland and heavily timbered and re-planted as tree farms. Historically the site has also been used for agriculture. Please see Appendix 9.2 for a summary of the adjacent property owners.

The Green Ridge project site contains an extensive system of wetlands that includes two named perennial streams, Muddy Creek and Maple Swamp Creek, along with their tributaries. Muddy Creek (HUC Code#020802050402) drains into the James River watershed which lies off the property to the north. Wetland delineation for this site was conducted during the months of March-May of 2018. This was followed by an Army Corps of Engineers field confirmation of the delineated wetlands. All delineation field work was completed by July of 2018 with the ACOE Jurisdictional Determination (NAO-2018-0995) being issued on August 22, 2019. The project area contains a total of 51.63 acres of Palustrine Forested Wetland (PFO) along with 45,213 LF of perennial/intermittent stream (R3/R4) and 24,235 LF of ephemeral channel (EPH). The following report will provide any necessary information on wetland/stream impacts associated with this project.

17. DIRECTIONS TO THE SITE

From Chester, VA take Route 288N for 20 miles before taking the US-60W/Midlothian Turnpike exit towards Powhatan W. Continue on US-60W for 26 miles. As you pass into Cumberland County from Powhatan a portion of the property will be on the right hand side of the road. Take a right on to Pinegrove Road and continue for ~0.8 miles. Miller Lane will be on the right.

Tax Parcels associated with project: 37-A-69, 44-A-20, 45-A-1, 45-A-7, 38-A-7, 44-A-13, 44-A-14, 44-A-22, 44-A-36, 44-A-19, 44-A-19A, 44-A-21, 45-2-A, 45-2-2-B, 45-1-40, and 45-1-41.

18. Nature of Activity (Description of project, include all features)

See:

Section 2.1 Introduction etc.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See:

Section 2.1

Section 2.2

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
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22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres N/A

or

Linear Feet N/A

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See:

Section III

Section VII, Part C

Section VIII

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

a. Address- Please see the attachments for all adjacent property owners (Appendix X.)

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Application: Section 26 – Certificates of Approval/Denial from other Federal/Local/State Agencies			
AGENCY	DESCRIPTION OF CURRENT ACTIVITIES THROUGH 6/1/20	DATE	FUTURE REQUIREMENTS
State Corporation Commission	Approval Articles of Organization Green Ridge Recycling and Disposal Facility, LLC	5/10/18	None
Cumberland County	DEQ form SW-11-1 Local government approval that facility in conformance with local ordinances	7/12/19	Will need site plan approvals for all design and construction activities
VDOT	Letter - Review of Traffic Impact Statement – concept design acceptable	7/10/19	Will need approval of entrance and road realignments
Virginia Department of Aviation	Letter - Review of location of landfill and reference to airport locations. No airports located within 6 miles of proposed landfill.	5/6/19	Will need approval from VDA of height of landfill
Virginia Department of Conservation and Recreation	Letter – Division of Natural Heritage found no natural heritage resources within 2 miles of site but indicates that absence may indicate that project area has not been surveyed.	6/14/19	
Virginia Department of Health	Central Office also conducted a similar review and confirmed these findings (see email in Appendix LIS-2C). No public water systems are located within three miles of the Green Ridge Recycling and Disposal Facility, LLC, and only one public system is located within a five-mile radius of the WMB.	11/8/19	Will need approval of any potable well to be drilled on site
Virginia Marine Resources Commission	Letter – Response to request for comments for Part A application – permit may be required – jurisdictional impacts will be reviewed during JPA process.	5/15/19	Will need approval during JPA
Virginia Department of Historic Resources	Letter – review of Phase 1 – comments provided	4/30/20	Will need final approval of all mitigation activities

III. PURPOSE AND NEED

The ensuing documents will discuss the purpose of this project and address the need for sanitary waste capacity within the state of Virginia by providing information on the current and future lifespan of landfill capacity within the state.

A portion of this section is dedicated to addressing the public interest served and provides of evidence of support from organizations and government entities within the community.

III. Purpose and Need

Section 3.1 Demonstration of Need Summary - The following Demonstration of Need was prepared by Draper Aden Associates for Green Ridge Recycling and Disposal Facility, LLC and was included in the DEQ, Part A solid waste permit submitted on January 22, 2020. This report provides information on landfill capacity within Virginia and addresses issues for the future of waste disposal within Virginia.

Preliminary Statement

Prepared by Green Ridge Recycling and Disposal LLC

The Commonwealth of Virginia is on the precipice of a waste disposal crisis, both in terms of diminishing capacity because of a dramatic increase in waste volume from out-of-state waste and the complete collapse of the recycling market, as well as an economic one because almost all of the current private Virginia landfills are concentrated in the hands of only two companies, Republic Services, Inc. and Waste Management, Inc. Those two companies currently control almost 88% of the private landfill capacity in Virginia. And as explained below, within 3-4 years, this duopoly will likely control an astounding 99% of the private landfill capacity in Virginia. The magnitude of the problem becomes especially apparent when you consider that private landfills account for about 70% of all waste disposal capacity as well as annual waste disposed of in Virginia, and that most of the landfills owned by localities do not serve the Commonwealth as a whole. They instead only take waste from the locality that owns and operates that landfill. Fairfax, Prince William, and Loudoun Counties are a few such examples. As set forth below, the proposed Green Ridge landfill addresses and alleviates both concerns. It is a landfill owned by an independent company and is intended to serve Virginia, not cater to out-of-state waste.

A number of factors have aligned to create a perfect storm vis-à-vis Virginia's future waste disposal needs. Several of Virginia's largest landfills have recently closed or will close in the near future, including the Lorton landfill, which historically accepted more than a million tons of debris a year. In addition, the Virginia Department of Environmental Quality ("DEQ") and the Virginia Attorney General's office are seeking to shut down the Tri-Cities landfill. Perhaps more significantly, the Shoosmith landfill in Chesterfield County will very likely be closing within 3-4 years because the Chesterfield County Circuit Court recently upheld Chesterfield County's

decision to deny a required County local certification based on health and environmental concerns, concerns among other things based on the undisputed fact that Shoosmith proposes to dispose of waste in a quarry more than 200 feet below the water table. And just this year, Republic Services withdrew its permit for a landfill in Cumberland County. (Thus, the Green Ridge facility is simply replacing a previously anticipated and permitted landfill in Cumberland County, with the added benefit of increasing competition.) In addition, a number of localities are struggling with their inefficient, costly public landfills and are seeking alternatives to those landfills, which are becoming increasingly more difficult for localities to operate and maintain. All this is occurring at the same time waste volumes coming to Virginia landfills are set to explode.

The reasons for the dramatic increase in future waste volumes are several-fold. A plethora of industry experts have concluded that the Northeast's landfill capacity is disappearing, with only 6 ½ years of capacity remaining, so Mid-Atlantic states such as Virginia will soon be inundated with waste from heavily populated states such as New York and New Jersey.¹ As a result, industry experts estimate that the Mid-Atlantic area has less than ten years of remaining disposal capacity.

The future for Virginia appears even grimmer. Virginia, Pennsylvania, and Ohio are the three states that experts agree will absorb the vast amount of waste from the Northeast because of the trucking lanes that allow haulers to save money by transporting waste to a landfill in one of those states and then return to the Northeast with a full load of lumber, steel, or mulch, instead of returning with an empty container. In addition, several of Virginia's largest landfills are directly

¹ For example, in a presentation to investors on June 1, 2019, Waste Management explained that the landfills in the Northeast are filling up so fast that the waste from New York City and Long Island, New York, representing 26,000 tons a day, will soon be transported by rail to the WMX-Amelia and Atlantic Waste Disposal landfills in Virginia. This tonnage represents an entirely new waste stream to Virginia landfills and is simply one harbinger of things to come. Perhaps more alarming, the WMX-Amelia landfill, and Atlantic Waste's landfill collectively represent approximately 25 percent of Virginia's disposal capacity.

connected to the Northeast via rail. All this is occurring at the same time that massive amounts of coal ash are expected to be transferred to Virginia landfills as a result of recent legislative action.

Yet the anticipated increase in waste is not limited to the dramatic influx of waste from the Northeast, Virginia's rapid economic expansion, and the relocation of coal ash. In addition, China and other Asian countries are no longer accepting recyclable materials from the United States. In turn, the United States lacks the capacity to recycle much of the materials that no longer have access to a foreign market. Thus, vast amounts of recyclable materials are beginning to be disposed in landfills. That situation will only grow progressively worse.²

Because of this expected increase in waste volume, DEQ cannot make a determination of waste disposal capacity based on historical numbers. Rather, it must evaluate future capacity based on a realistic projection of anticipated waste when the Green Ridge landfill becomes operational several years from now, a time when Virginia's disposal capacity will have already substantially shrunk.

In calculating the available capacity, DEQ likewise cannot rely upon the annual capacity reports provided to it by landfill operators because those industry-reported capacities are inflated. Landfill operators have incentive to overestimate their remaining disposal capacities because doing so substantially lessens the cost of their financial assurance bonds. Moreover, many localities that

² Incineration is not a viable option to address the influx of future waste. Virginia's incineration plants are already operating at full capacity and cannot handle any additional waste. Moreover, only one municipal solid waste incinerator in the United States has been permitted in the last forty three years, and after incineration, 15-25 percent of the waste incinerated remains as ash which must in turn be disposed in a landfill. Moreover, by their nature, incineration facilities require extended maintenance shut downs and are subject to fire which can shut down a plant for prolonged periods of time, thereby further exacerbating the capacity problem. So for example, the Fairfax Covanta plant experienced a fire which shut down the plant for fifteen months, during which time all the daily waste it had been handling had to be diverted to landfills.

own and operate a landfill do not have the resources to accurately determine and report their remaining disposal capacity. In addition, these capacity reports also do not take into account the beneficial reuse materials which do not have to be reported but take up considerable air space thereby consuming actual disposal capacity.

As long as sufficient capacity appeared to exist, a flawed methodology based on voluntary reporting did not present a material issue. However, with ever-diminishing capacity and the looming exponential increase in future waste, prudence now dictates that DEQ adopt a realistic capacity number, not one intended to lower the cost of financial assurance bonds.³

From an economic perspective, an exploding waste volume - coupled with two companies dominating the waste market - creates an anti-competitive environment that inexorably leads to spiraling waste disposal costs for state and local governments, as well as for Virginia businesses and residents. Indeed, the effects are already being felt. For example, in just the past year, VCU's disposal costs almost tripled from \$18.89 to \$44.30 a ton.

Green Ridge's Cumberland landfill represents a unique opportunity to address the economic issue as well as the need for additional capacity. Green Ridge's parent company and affiliates, known as County Waste, collect waste from more than 320,000 customers across the Commonwealth, many of whom include agencies, universities, large industrial users, and homeowners associations. The Green Ridge landfill will allow County Waste to serve those customers and offer highly competitive waste disposal rates to Virginia governments, businesses,

³ DEQ apparently realizes that its projections of remaining disposal capacity are not a reliable indicator of the actual remaining capacity because in the last few years, DEQ has approved several expansions even though DEQ's current formula would indicate more than 20 years of remaining disposal capacity existed. Moreover, if DEQ were to find that sufficient disposal capacity exists, then DEQ could likewise no longer grant any expansion of a publicly owned landfill.

and residents because County Waste will not have to rely on landfills controlled by just two companies.

In addition, *unlike other private landfills in the Commonwealth, the Green Ridge landfill is intended to serve Virginia and not the Northeast.* That is why Green Ridge has elected to specifically exclude from its service area New Jersey and New York, the two heavily populated Northeastern states that industry experts predict will inundate Virginia landfills with their waste. All the other private landfills in Virginia, other than the Shoosmith landfill - which will likely close by 2023 - have no such out-of-state restrictions. Consequently, DEQ must assume that the existing capacity of Virginia landfills will be increasingly devoted to out-of-state waste. It therefore becomes imperative that Virginia has a landfill such as Green Ridge dedicated to serving the needs of Virginia. After the Green Ridge landfill becomes operational, Virginia will have such a landfill, one intended and permitted to meet the disposal needs of Virginia, and not the Northeast, while also helping to ensure competitive waste disposal rates.

Because of these realities, localities are beginning to recognize the crisis and future accelerated costs they will confront. That is why so many localities, including Hanover, Chesterfield, Botetourt, Appomattox, Ashland, and Cumberland, to name but a few, strongly support the Green Ridge landfill.

In short, it is imperative that DEQ take a proactive position to ensure that Virginia enjoys adequate waste disposal capacity going forward, and also recognize the damaging consequences that will ensue if DEQ mistakenly overestimates Virginia's future disposal capacity. Such a mistake would have lasting effects, because once a crisis develops, it would take years to abate. At a minimum, companies need 5-6 years to select a site, obtain permits, and construct a landfill.

Green Ridge Recycling and Disposal Facility
Notice of Intent
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Prudence, therefore, requires that DEQ, at the very least, adopt the projection of waste industry experts that the Mid-Atlantic states have at most 10.6 years of remaining capacity. Indeed, adopting a 10.6-year projection for Virginia is likely optimistic vis a vis Virginia because of the trucking lanes and the fact that two of Virginia's landfills, representing approximately 25 percent of the Commonwealth's existing capacity, are about to be inundated via rail with waste from Long Island and New York City.

**GREEN RIDGE RECYCLING AND DISPOSAL FACILITY
DEMONSTRATION OF NEED
(Prepared by Draper Aden Associates)**

INTRODUCTION

The Virginia Solid Waste Management Act, 10.1-1408.1.D.1 indicates: *"....no permit for a new solid waste management facility ...shall be issued until the Director has determined,...that....(ii) there is a need for the additional capacity."*

Implementation of this requirement was set forth in the *Virginia Solid Waste Management Regulations* 9VAC20-81-450.B.8:

8. If the application is for a new solid waste management facility the director shall evaluate whether there is a need for the additional capacity in accordance with §10.1-1408.1 D 1 of the Code of Virginia. The information in either subdivision 8 a or b of this subsection must be provided with the notice of intent to assist the director with the required investigation and analysis. Based on the information submitted, the owner or operator will demonstrate how the additional capacity will be utilized over the life of the facility.

a. For any solid waste management facility including a sanitary landfill, information demonstrating that there is a need for the additional capacity. Such information shall include the following. If a certain item is not applicable for a facility, it may be indicated so with reasonable justifications.

- (1) The anticipated area to be served by the facility;*
- (2) Similar or related solid waste management facilities that are in the same service area and could impact the proposed facility, and the capacity and service life of those facilities;*
- (3) The present quantity of waste generated within the proposed service area;*
- (4) The waste disposal needs specified in the local solid waste plan;*
- (5) The projected future waste generation rates for the anticipated area to be served during the proposed life of the facility;*
- (6) The recycling, composting, or other waste management activities within the proposed service area;*
- (7) The additional solid waste disposal capacity and anticipated site life that the facility would provide to the proposed area of service;*
- (8) Information demonstrating that the capacity is needed to enable localities to comply with solid waste plans developed pursuant to §10.1-1411 of the Code of Virginia; and*
- (9) Any additional factors that provide justification for the additional capacity provided by the facility.*

b. As an alternative, for sanitary landfills, based on current or projected disposal rates, information demonstrating there is less than 10 years of capacity remaining in the facility and information demonstrating either of the following:

- (1) The available permitted disposal capacity for the state is less than 20 years based on the most current reports submitted pursuant to the Waste Information and Assessment Program in 9VAC20-81-80; or*

- (2) *The available permitted disposal capacity is less than 20 years in either:*
- (a) *The planning region, or regions, immediately contiguous to the planning region of the host community; or*
 - (b) *The facilities within a 75-mile radius of the proposed facility.*

Green Ridge Recycling and Disposal Facility, LLC ("Green Ridge"), in accordance with the regulations is submitting information in support of both Section 8.a (Discussion 1) and Section 8.b.(1) (Discussion 2) below. The discussions rely heavily on the DEQ report entitled, "2019 Annual Solid Waste Report for CY 2018, Commonwealth of Virginia," dated June 2019.

DISCUSSION 1 - DEMONSTRATION OF NEED – 9VAC20-81-450.B.8.a

1.0 Anticipated Area to be Served

The anticipated area to be served is the Commonwealth of Virginia, although under the Amended and Restated Host Agreement with Cumberland County dated July 11, 2019, the service area may be 500 miles in aerial radius distance, *excluding New York and New Jersey*. The landfill will be permitted for a daily capacity of 5,000 tons per day.

The Green Ridge facility will primarily focus on waste collected by County Waste of Virginia, LLC and its subsidiaries from within Virginia (collectively referred to as Green Ridge throughout this discussion). Green Ridge estimates that it will initially control approximately 3,500 tons per day of waste generated from within Virginia when the landfill opens, with a probability that the tonnage will increase to 5,000 tons per day during the life of the facility, as Green Ridge's Virginia operation continues to grow. The waste is anticipated to primarily originate from Central and Southwest Virginia.

2.0 Similar or related solid waste management facilities in same service area; impact on proposed facility; capacity and service life of those facilities

2.1 Similar facilities

As the service area is described as the "Commonwealth of Virginia," all permitted solid waste management facilities in Virginia are within the Green Ridge service area. Per discussion with DEQ on September 24, 2018, Green Ridge does not need to catalogue solid waste management facilities outside the boundaries of Virginia.

A summary of all permitted and active facilities in Virginia as provided by DEQ is included in Appendix A.

2.2 Impact of facilities on proposed facility and service life of those facilities

To evaluate the impact of existing facilities on the proposed facility and to provide information on the service life of those facilities, Green Ridge utilized information from the DEQ 2019 annual report (CY 2018 data). This report is based on information reported by permitted facilities and is required annually under the Solid Waste Information and Assessment program (SWIA).

The SWIA reporting table, requires permit holders to report “remaining permitted capacity,” tonnage landfilled and “expected remaining permitted life” for the sanitary landfill sector as of December 31, 2018. The permit holders report “remaining permitted capacity” in cubic yards. At this time, permit holders are not required to indicate the method used to develop this information (e.g. by survey, by conversion, or other method) and confusion has therefore historically existed on the totals reported. Table C-1 in Appendix C includes information from Table 4 of the 2019 report.

DEQ converts the reported cubic yards into tons by multiplying cubic yards by an assumed density of 1,000 pounds per cubic yard. (In reality, density is highly variable between facilities and is a function of waste materials and operations.) DEQ then totals the remaining capacity (in tons) for all reporting facilities and develops the remaining permitted capacity (in tons). The reported value for CY 2018 was 252,161,609 tons. Due to the variability in reporting and the conversion calculations, *there are inherent inaccuracies* in this reported value.

DEQ has historically calculated the “remaining available landfill capacity” in the Commonwealth by dividing the total “remaining permitted capacity” by the total annual tonnage for the specific year under consideration. *As indicated above, inaccuracies in this calculation exist. The import of the inaccuracies are magnified because DEQ uses this value to assess the “need” for additional landfill capacity in the Commonwealth.* Further, this calculation does not consider future growth, closure of landfills, the current collapse of recycling markets or increased pressure from out-of-state waste.

Using this historic methodology, DEQ reported that the “remaining available landfill capacity” in Virginia at the end of 2018 was 23.4 years. DEQ also assumed that waste can be distributed equitably across all landfills in Virginia and this is not true. Yet waste from Southwest Virginia cannot be economically transferred to a landfill in Eastern Virginia. In addition, many public landfills have strict service areas and will not accept waste outside their respective limited service areas.

In short, as discussed in the Preliminary Statement and as further explained below, The DEQ’s gross estimate is inaccurate and the methodology traditionally used to calculate it is outdated. As the industry recognizes, the actual future capacity is less than half what DEQ’s traditional methodology would suggest.

A. Calculation of remaining life (versus reported life)

Permitted facilities are required to report “expected remaining permitted life.” As with the remaining permitted capacity, permit holders are not required to disclose the methodology or to provide supporting documentation for the reported value. *It is critical to assess each facility individually, to determine the number of landfills that will close in the next 20-year period.* Moreover, without clear guidance or oversight by DEQ, reported information can be inaccurate or manipulated.

To assess the validity of the “reported” information and to assess the validity of the DEQ calculation methodology, Green Ridge calculated the *remaining life for each facility* using the same DEQ’s historic methodology i.e., tonnage remaining divided by annual tonnage received. Table C-1 provides the information.

The calculation was revealing. In 2018, data reported by the private landfills indicated that only 3 facilities had less than 20 years of life remaining. But proper calculations indicate that 6 facilities have less than 20 years of remaining capacity, without regard to the anticipated increase in future waste. For the public sector facilities, Green Ridge's calculations indicate that 16 facilities have less than 20 years of remaining capacity. Thus, a *total of 22 facilities (42% of all permitted sanitary landfills)* have less than 20 years of capacity, even after assuming a constant waste disposal rate.

More importantly, this evaluation further underscores the inaccuracies in the reporting system. DEQ's calculations indicate that there are 23.4 years of remaining life even though 22 facilities have less than 20 years of life remaining.

B. Calculation of capacity (in tons) to be consumed within the next 20-year period

Landfill capacity is a consumable resource and as such must be replenished. Replenishment of capacity takes significant time. Using the 2019 report data (CY 2018), Green Ridge examined the capacity to be consumed over the next 20 years. Table C-1 summarizes the information. Green Ridge found the following:

- Landfills *reporting* less than or equal to 20 years of remaining life will deplete almost 18.0 million tons of capacity or 10% of the calculated total remaining capacity over the next 20 years. At the end of 20 years (and sooner for some landfills), these landfills will be "full." The tonnage currently entering these landfills will have to be transferred elsewhere if expansions do not occur.
- Landfills with a *calculated* life of less than or equal to 20 years of remaining life, will deplete almost 69.0 million tons of capacity or 39.5% of the calculated total remaining capacity. At the end of 20 years (and sooner for some landfills), these landfills would be "full". The tonnage currently entering these landfills will have to be transferred elsewhere if expansions do not occur.
- Significantly, this depletion in capacity does not consider future growth, closure of non-compliant landfills, the current collapse of recycling markets, or increased pressure from out-of-state disposal needs.

Replacement of capacity consumed will require 5 – 6 years (or more depending on the project) from initiation to final construction of a new landfill. *It is therefore imperative that DEQ allow new capacity to be permitted to address the coming crisis in disposal capacity in the Commonwealth over the next 20 years.*

C. Evaluation of capacity controlled by private sector landfills and public sector landfills.

Based on the 2019 report, approximately 71% of the tonnage landfilled was delivered to private sector landfills and approximately 29% to public sector landfills. Approximately 69% of the available permitted capacity rests with private sector landfills and only 31% with the public sector landfills. Private sector capacity is dominated by just two companies. In fact, these two companies currently control 88% of the private landfill capacity, and with the closure of Tri-City and the almost certain inability of Shoosmith to utilize its quarry cell expansion, this duopoly will monopolize 99% of the private sector capacity. *Additional competition in the private sector (which the Green Ridge facility will provide) will protect the interests of the Commonwealth and its citizens. (See Table C-1.)*

D. Consideration of public sector capacity

Also critical to the discussion is that public sector landfills typically cannot receive waste from other localities. Their usage is restricted by local ordinance, agreements, or their permit. Bedford County is an example of this. Region 2000 Services Authority recently voted against allowing Bedford County to use their facility unless the County became a member of the Authority. Other waste authorities have similar restrictions. For example, Fairfax, Loudoun and Prince William Counties (the three most populated counties in Virginia) restrict outside waste. Thus, if DEQ considers available capacity in public landfills (that are not able to or are reluctant to accept any tonnage other than that generated within their service area), doing so would skew the overall calculation of future available capacity. Consequently, *at least 30% of the remaining capacity in Virginia that relies on public sector landfills, is not available or at the very least should be substantially discounted from a practical standpoint, when considering a 20-year time line.*

E. Impact of closure of construction/demolition/debris (CDD) landfills in Virginia

Table C-2 provides the remaining capacity and service life reported for CY 2018 for CDD landfills in Virginia. This table also provides a calculated life and reported remaining life as was done for the sanitary landfills. For CY 2018, DEQ reported 15.5 years of remaining life although Green Ridge calculate only 14.8 years of life when the Country South facility is removed from the calculations. (Country South is a vegetative waste facility and used only for its own operations.) If additional permitted capacity is not forthcoming for CDD landfills, acceptable CDD tonnage will likely be disposed of in sanitary landfills. For CY 2018, the annual tonnage landfilled in CDD landfills with less than 20 years of capacity was approximately 1.2 million tons. Based on the estimated closures, 15.6 million tons of capacity will be depleted on or before 20 years and will require replacement. Multiple landfills will be "full" and tonnage will need to be redirected elsewhere if facilities are not expanded.

In summary, the existing landfills will not impact the proposed facility. The proposed facility will provide needed additional capacity and competition in the service area.

3.0 Present quantity of waste generated within the proposed service area

As indicated above, the proposed service area for the Green Ridge facility is defined by a 500-mile radius, sans New York and New Jersey, and hence includes all of Virginia. However, DEQ has confirmed that only information on Virginia must be provided.

Under Section 10.1-1413.1 of the Code of Virginia, DEQ is required to prepare an annual solid waste report summarizing solid waste activities in Virginia. The most recent published report addresses waste activities for calendar year 2018. Information in the report is based on data collected from the Solid Waste Information and Assessment (SWIA) forms submitted to DEQ by solid waste facilities, as required by 9VAC20-81-80. The report essentially addresses solid waste "managed" in Virginia as indicated by the titles of their tables. The following tables summarizing waste managed in Virginia for 2018 are included in Appendix B:

- Table 1 – Solid Waste Managed in Virginia for All Reporting Facilities in tons
- Table 2 – Jurisdiction of Origin of Waste Received in tons
- Table 3 – Solid Waste Managed by MSW (Sanitary Landfills) in tons
- Table 4 – Capacity and Remaining Life for MSW (Sanitary Landfills)
- Table 5 – Solid Waste Managed by CDD Landfills in Tons
- Table 6 – Capacity and Remaining Life for CDD Landfills

Further discussion is presented below.

3.1 MSW Waste and Permitted Sanitary Landfills

Below are key points relative to MSW waste generation and disposal and permitted sanitary landfills.

- Table 4 of the CY 2018 DEQ annual report indicates that 10,783,080 tons of MSW was landfilled at permitted sanitary landfills in 2018.
- Per the annual report, MSW from outside Virginia increased by 12.3% from 2017 with this trend expected to continue as more landfills close in the Northeast.
- Of the 2018 tonnage, 70.9% was landfilled at private facilities.
- On a per person basis (considering the Weldon Cooper population estimate for Virginia, which was reported as 8,517,685 for 2018), the landfill disposal rate in Virginia (including out of state waste) averaged 6.9 pounds per person per day for 2018. This is significantly higher than the reported waste generation rate by the USEPA of 4.5 pounds per person per day and reflects the significant amount of out-of-state MSW received at permitted sanitary landfills.
- Eighteen facilities reported less than 20 years of life. The 2018 annual tonnage for these facilities was 5.7 million tons, which would need to be transferred to other facilities in the future if additional capacity is not created.

As discussed previously, generation rates will continue to increase exponentially. Thus, significantly less remaining life in MSW landfills exists than DEQ currently projects. *In addition, there will be significant pressure on Virginia facilities as landfills in the Northeast close. This is especially true because Virginia, Pennsylvania, and Ohio will receive the vast bulk of that new waste due to logistics (trucking lanes and rail systems). In fact, Virginia's private facilities are anticipated to receive the bulk of this influx, and so an increase in capacity is clearly required.* For example, a figure from a WMX presentation on June 1, 2019 is provided in Appendix D. This figure demonstrates that a new, significant amount of New York City tonnage will be disposed of in Virginia in the Amelia and Atlantic Waste Disposal facilities via direct rail.

3.2 CDD Waste and permitted CDD landfills

Below are key points relative to CDD waste generation and disposal and permitted CDD landfills.

- Table 6 of the CY 2018 DEQ annual report indicates that a total of 1,981,594 tons of CDD waste were landfilled at permitted CDD landfills.
- On a per person basis (considering the Weldon Cooper population estimate for Virginia, which was reported as 8,517,685 for 2018), the disposal rate in Virginia (including out of state waste) for CDD materials averaged 1.3 pounds per person per day for 2018. CDD waste materials are not included in the USEPA per capita calculation.
- Data from 2018 indicates that there is a total of 14.8 years of remaining life in permitted CDD landfills in Virginia. Seven facilities reported less than 20 years of life. The 2018 annual tonnage for these seven facilities was approximately 1.3 million tons which will need to be transferred to other facilities in the future if additional capacity is not forthcoming.
- Without additional CDD permitted capacity, allowable CDD materials will be disposed of in sanitary landfills, further consuming disposal capacity in sanitary landfills.

At current tonnages and reported capacity (which are inaccurate as discussed previously), there is approximately 15 years of remaining CDD capacity in Virginia. However, generation rates will continue to increase with future economic development. Thus, significantly less remaining life in CDD landfills exists than currently projected. *Acceptable CDD waste disposed of in MSW landfills will further compromise the capacity of the MSW landfills. Clearly, additional capacity is needed.*

4.0 Waste disposal needs in local solid waste management plan

The local solid waste management plan (SWMP) covers a region defined as Prince Edward County and Cumberland County. In a discussion of demographics of the region, the SWMP states:

- *"The planning district within which Prince Edward and Cumberland Counties are part of is described as: "one of the most economically challenged regions in the State of Virginia." (Page 5).*
- *"Both Prince Edward County and Cumberland County are largely rural with few large industries and manufacturing facilities." (Page 5)*
- *"Scarcity of higher paying salaries continues to impact in a negative manner, a locality's or region's primary source of income – its tax base. This, in turn, often inhibits growth in the locality or region because investments in needed infrastructures do not happen or are slow to occur." (Page 7)*
- *Environmentally-sound solid waste management within the two counties remains a significant public function that demands a continuing allocation of resources. (Page 7)*
- *"Along with highways, railroads, water, wastewater, schools and healthcare providers, **well run and funded waste management facilities are an attraction to industrial, commercial and residential development.**" (bold added for emphasis) (Page 7)*

The Green Ridge facility will provide substantial revenues, as well as job opportunities to Cumberland, and will substantially decrease Cumberland County's solid waste expenses. Projected revenues from the Green Ridge facility to Cumberland County will likely exceed 3 million dollars annually. The FY 2020 budget projects waste disposal expenditures at \$980,754 and total general fund expenditures at \$15,518,441 (including waste disposal). Thus, revenues from Green Ridge would be the equivalent of almost 20% of the general fund budget for Cumberland County.

The Plan also addresses solid waste disposal needs over the next 20 years. The SWMP provides the following information relative to solid waste planning in the region.

- *Waste generation based on 4.51 pounds per person per day and population projections in the plan can be summarized as follows (Page 22):*
 - *2000: 25,600 tons*
 - *2010: 28,300 tons*
 - *2020: 31,200 tons*
 - *2030: 34,500 tons*
- *Currently Cumberland County operates convenience centers, from which waste is transported out of the County for disposal. (The waste currently is disposed of in the Shoosmith landfill, which has a likely remaining life expectancy of 3-4 years. The Amelia landfill, controlled by Waste Management, is about to be inundated with New York trash via rail.)*
- *Prince Edward County operates a landfill and, based on a 2018 topographic survey, has approximately 1,806,000 cubic yards remaining. The SWMP indicates that the landfill receives on average, 82 tons per day, reported receiving 25,075 tons in 2017, and estimates that the landfill has a remaining life of 20 years assuming a density of 1,250 pounds per cubic yard. (It should be noted that the 2018 annual report indicates only 173,500 tons of remaining capacity with a remaining life of 6 years. This indicates a need for additional disposal capacity in the region.)*

Both Prince Edward County and Cumberland County have approved the Plan and by doing so endorsed the Green Ridge project and the need for this facility. Cumberland County has gone even further and written a fulsome letter of support.

5.0 Future waste generation rates for service area over proposed life of facility

Virginia solid waste management planning requires regions to consider a 20-year planning period. Although the Green Ridge landfill has an estimated life of at least 25-30 years, future generation rates were only projected for 20 years to be consistent with planning regulations.

Future waste generation in the service area (Virginia) was based on the calculated disposal rate of 6.9 pounds per person per day for MSW, and 1.3 pounds per person per day for CDD as described in Sections 3.1 and 3.2 above. Generation rates were held constant and varied with population (based on Weldon Cooper Center projections). This of course grossly underestimates future tonnages given economic growth in Virginia and the pressure from the Northeast, as well as other factors previously identified. Using

methodology similar to that used in preparation of solid waste management plan projections, Table 1 provides future waste projections for the service area. The CDD component is only added to year 2040 as the existing permitted CDD capacity will run out in 2035.

TABLE 1
PROJECTED WASTE DISPOSAL REQUIREMENTS
2020 – 2040
VARIOUS GENERATION RATES (Tons)

ITEM	2018	2020	2030	2040
Population	8,517,685	8,744,273	9,546,958	10,201,530
MSW - Calculated landfill tonnage 6.9 pounds per person per day	10,783,080 (SWIA report)	11,011,226 (Calculated)	12,022,007 (Calculated)	12,846,277 (Calculated)
MSW/CDD Calculated landfill tonnage 8.3 pounds per person per day				15,452,777 (Calculated)

Considering just MSW, the annual landfill disposal requirement in 2040 is 19.1% higher than reported for 2018. If CDD is considered, the annual landfill disposal capacity requirement in 2040 will be 43.3% higher if additional CDD permitted capacity is not forthcoming. *In 2040, including CDD tonnage 9.4 million cubic yards of additional capacity (at 1,000 pounds per cubic yard) will be required to cover the projected additional tonnage, even without considering the tonnage that will require relocation due to landfill closures.*

As indicated, DEQ's methodology for calculating the need for remaining landfill capacity results in a dramatic miscalculation of existing capacity. A better way to project the impact of increased tonnage on landfill capacity is to consider annual growth, tonnage and consumed capacity. Table 2 (below) provides this information, considering the 6.9 pounds per person per day of waste landfilled as described previously.

TABLE 2
PROJECTED DISPOSAL TONNAGE
2018 – 2040

YEAR	POPULATION	TONNAGE	REMAINING CAPACITY (tons)
2018	8,517,685	10,783,080	252,161,610
2019	8,630,979	10,868,560	241,293,050
2020	8,744,273	11,011,226	230,281,824
2021	8,824,542	11,112,304	219,169,520
2022	8,904,810	11,213,382	207,956,138
2023	8,985,079	11,314,460	196,641,678
2024	9,065,347	11,415,538	185,226,140
2025	9,145,616	11,516,616	173,709,523
2026	9,225,884	11,617,694	162,091,829
2027	9,306,153	11,718,773	150,373,056
2028	9,386,421	11,819,851	138,553,206
2029	9,466,690	11,920,929	126,632,277
2030	9,546,958	12,022,007	114,610,270
2031	9,612,415	12,104,434	102,505,836
2032	9,677,872	12,186,861	90,318,976
2033	9,743,330	12,269,288	78,049,688
2034	9,808,787	12,351,715	65,697,973
2035	9,874,244	12,434,142	53,263,831
2036	9,939,701	12,516,569	40,747,262
2037	10,005,158	12,598,996	28,148,267
2038	10,070,616	12,681,423	15,466,844
2039	10,136,073	12,763,850	2,702,994
2040	10,201,530	12,846,277	-10,143,282

Thus, even without regard to the almost certain exponential future growth in waste coming to Virginia landfills, as this table indicates, capacity will run out at the end of 2039 not 2041 as projected by DEQ. Thus, there is scarcely 20 years of remaining capacity in Virginia under this scenario, which again does not consider economic growth, the escalating waste tonnage from the Northeast, the potential relocation of coal ash, the closure of CDD landfills, the closure of non-complying landfills, or the collapse of the recycling markets.

This information clearly indicates the need for additional capacity.

6.0 Recycling, composting or other waste management activities in proposed service area

The table in Appendix A provides information on active permitted facilities in Virginia as provided by DEQ. Given the issues with current recycling markets and the bans on certain materials, it is anticipated that substantial additional tonnage will be disposed of in the MSW landfills.

7.0 Additional solid waste disposal capacity and anticipated site life of facility

The Green Ridge facility has not yet been permitted. Preliminary conceptual designs indicate a potential capacity of approximately 83,000,000 cubic yards (waste and soil volume). Site life is estimated at approximately 30± years. Actual site life will be a function of the final permitted design and capacity, tonnage landfilled, and operations.

8.0 Information demonstrating that capacity is needed to enable localities to comply with solid waste plans.

Solid Waste Management Plans must evaluate a region's planning and disposal capacity over a rolling 20-year period. Many of the regions utilize public landfills, while others rely on transfer to a combination of public and private landfills. Based on previous discussions, the following key points can be made relative to the next 20 years:

- MSW - 5.7 million tons of capacity will be needed to replace the closure of 22 facilities (Section 3.1)
- CDD - 1.2 million tons of capacity will be needed to replace the closure of 7 facilities (Section 3.2)
- Growth – 4.7 million tons of capacity will be needed based on population growth (Section 5.0)

Without any other consideration, a total of 11.6 million tons of capacity will be needed in 20 years. Based on 1,000 pounds per cubic yards as used by DEQ, this would equate to 23.2 million cubic yards of capacity needed. *There is clearly a need for additional capacity.*

Table 3 considers the previous information from Table 2 combined with projected CDD landfill closures assuming this tonnage is transferred to MSW landfills.

TABLE 3
EVALUATION OF LANDFILL CAPACITY (2018)
2020 – 2040
SANITARY LANDFILL AND CDD LANDFILL TONNAGE

YEAR	POPULATION	TONNAGE	CDD TONNAGE	TOTAL TONNAGE	REMAINING CAPACITY (tons)
2018	8,517,685	10,783,080	0	10,783,080	252,161,610
2019	8,630,979	10,868,560	0	10,868,560	241,293,050
2020	8,744,273	11,011,226	0	11,011,226	230,281,824
2021	8,824,542	11,112,304	0	11,112,304	219,169,520
2022	8,904,810	11,213,382	55,458	11,268,840	207,900,680
2023	8,985,079	11,314,460	55,458	11,369,918	196,530,762
2024	9,065,347	11,415,538	55,458	11,470,996	185,059,766
2025	9,145,616	11,516,616	55,458	11,572,074	173,487,691
2026	9,225,884	11,617,694	55,458	11,673,152	161,814,539
2027	9,306,153	11,718,773	55,458	11,774,231	150,040,308
2028	9,386,421	11,819,851	55,458	11,875,309	138,165,000
2029	9,466,690	11,920,929	353,990	12,274,919	125,890,081
2030	9,546,958	12,022,007	353,990	12,375,997	113,514,084
2031	9,612,415	12,104,434	353,990	12,458,424	101,055,660
2032	9,677,872	12,186,861	353,990	12,540,851	88,514,810
2033	9,743,330	12,269,288	675,809	12,945,097	75,569,713
2034	9,808,787	12,351,715	675,809	13,027,524	62,542,189
2035	9,874,244	12,434,142	675,809	13,109,951	49,432,238
2036	9,939,701	12,516,569	675,809	13,192,378	36,239,860
2037	10,005,158	12,598,996	675,809	13,274,805	22,965,056
2038	10,070,616	12,681,423	1,276,607	13,958,030	9,007,026
2039	10,136,073	12,763,850	1,276,607	14,040,457	-5,033,431
2040	10,201,530	12,846,277	1,276,607	14,122,884	-19,156,314

As this table indicates, capacity will run out at the end of 2038 *not* 2041 as projected by DEQ when CDD landfill closures are considered. There is less than 20 years of remaining capacity in Virginia under this scenario, which again does not consider economic growth, the escalating waste tonnage from the Northeast, the potential relocation of coal ash, the closure of non-complying landfills, or the collapse of the recycling markets.

This information clearly demonstrates the need for additional capacity to support regional solid waste plans. Relative to the Cumberland/Prince Edward Region, Cumberland County currently transfers to the Shoosmith Landfill whose future expansion is under litigation; Prince Edward County operates their own landfill with a reported remaining life of 6 years. Thus, the Green Ridge landfill will support this region's solid waste plan once permitted and constructed.

Contiguous solid waste regions rely heavily on the private sector facilities which may or may not be able to support their 20-year goals. Region 2000 has less than 20 years of remaining life and at this time it appears doubtful that an expansion will be allowed by the host community. Green Ridge will support this region. Members of the Central Virginia Waste Management Authority which includes Henrico, Hanover, Goochland, Powhatan, Chesterfield Counties (to name a few), rely heavily on Shoosmith and Old Dominion landfills which will reach capacity in the next 20 years. (In light of a recent court decision, Shoosmith likely has a remaining capacity of only 3-4 years.) Consequently, the CVWMA has expressed interest in guaranteeing disposal capacity in the Green Ridge landfill. (See letter in Appendix E)

In short, additional capacity is needed in Virginia not only because of the information provided in the previous two sections that indicated insufficient landfill capacity through 2040, but also because of the changing conditions in the solid waste industry in the Northeast and recycling markets as described in the Preliminary Statement.

9.0 Any additional factors that provide justification for the additional capacity

The permitting of any new landfill or expansion can be at least a 5 – 6-year process from initiation of the project through construction. *Thus, it is imperative that those developing or expanding landfills be assured that their permit will be considered in the context of future disposal needs, and not on an outdated methodology and subjective data.*

Moreover, between 2013 and 2019, there have been 14 permit modifications approved by DEQ for expansions or increased capacity. DEQ approved these expansions although DEQ's annual reports for those years reported the following remaining life in Virginia's MSW landfills:

YEAR	REMAINING LIFE (By DEQ)
2013	21.9
2014	27.2
2015	23.3
2016	24.1
2017	23.1
2018	23.4

Five of these modifications have been with private sector landfills. This reflects that DEQ understands that DEQ's 20-year projection is not reliable and represents a gross estimate at best.

In short, a need for the Green Ridge Facility exists for among other reasons:

- As indicated in Section 4.0, solid waste disposal for Cumberland County is a drain on its limited resources. The Green Ridge facility will offer relief to the County in a number of ways, including reduced disposal and recycling costs, revenues from the host fee, and jobs. The County has indicated that it *needs* this project and fully supports it.
- The Green Ridge facility does not represent “new” disposal capacity but “replacement” capacity. It is replacing the Republic landfill previously permitted in Cumberland County, which was never developed, and whose permit is now terminated. As discussed above, this capacity will be needed to meet the future disposal requirements of the region and service area.
- As discussed above, DEQ’s remaining life calculation is inaccurate and based on subjective data. The calculation represents a single point of time and fails to consider population and economic growth, closure of landfills, increased pressure from the Northeast, need for fly ash disposal, time to permit additional capacity, and other factors.
- Relative to the Cumberland/Prince Edward Region, Cumberland County currently transfers waste to the Shoosmith Landfill which the Chesterfield Circuit Court has recently held does not have a required County certification for the quarry cell; Prince Edward County operates their own landfill with a reported remaining life of 6 years. Thus, the Green Ridge landfill will support this region’s solid waste plan once permitted and constructed.
- The Amelia landfill is about to be inundated with New York trash via rail.
- Contiguous solid waste regions rely heavily on the private sector facilities which may or may not be able to support their 20-year goals. Region 2000 has less than 10 years of remaining life and at this time it appears doubtful that an expansion will be allowed by the host community. Green Ridge can also support this region. Members of the Central Virginia Waste Management Authority which includes Henrico, Hanover, Goochland, Powhatan, Chesterfield Counties (to name a few), rely heavily on Shoosmith and Old Dominion landfills which will reach capacity in the next 20 years. Because of this the CVWMA has expressed interest in the guaranteeing disposal capacity in the Green Ridge landfill.
- As indicated, from initiation of a project to constructed landfill capacity can take 5 – 6 years (or longer depending on the project). Capacity is always being consumed. New capacity will always be needed. The Code of Virginia indicates that *“no permit for a new solid waste management facility...shall be issued until the Director has determined,...that...(ii) there is a need for the additional capacity.”* The regulations implementing the Code introduced the concept of a threshold of 20 years of capacity to define need, and as discussed, this calculation fails to consider multiple important factors. To refuse a permit solely on DEQ’s determination based on historical methodology of remaining life would not fully consider the following key elements of the solid waste industry and the true need for the Green Ridge capacity:
 - Virginia has mandated that facilities currently storing tons of coal combustion residuals remove the residuals for disposal in permitted landfills. It is not known at this time, how much of this material may be disposed of in captive industrial landfills, transported out

of state or disposed of in currently permitted capacity. The potential impact of this requirement could be significant.

- Several major disposal facilities are currently struggling with local politics and land use issues relative to expansions including the Shoosmith Landfill, The East End Landfill, and Region 2000. In addition, DEQ has closed the Tri-Cities Landfill due to reoccurring violations. Many are concerned about the loss of Shoosmith capacity and its ripple effects through Central Virginia. Other localities such as Amherst County have determined not to utilize their remaining capacity, but to move to a transfer operation followed by landfill closure. There may be other facilities making decisions that impact available capacity, and these plans should be a factor considered when determining need.
 - Many public sector landfills have defined (restricted) service areas and cannot accept waste from out of their service area. This capacity is therefore not available to others in Virginia and should not be a factor in the 20-year calculation.
 - A major concern with DEQ's incorrect assumption that waste can be distributed equitably across all landfills in Virginia. Transportation has to be considered. Waste from Southwest Virginia cannot be economically transferred to a landfill in Eastern Virginia. The Green Ridge facility will be positioned to serve a major portion of Central and Southwest Virginia in a cost effective and efficient manner.
 - Tipping fees and disposal costs for local governments are established based on competition and available capacity. Artificially controlling available capacity through consideration of current "need" reduces competition with the end result of higher tipping fees, impacting the Commonwealth, its businesses and its citizens. There are many examples of what happens to tipping fees when competition and capacity are reduced¹. One has only to look to the Northeast for examples of this.
 - Demonstration of Need applies to *both* private and public sector facilities. Enforcement of the 20-year life and determination of need based on DEQ's outdated model will force public sector landfills to forgo expansions, potentially directing them into transfer operations, thereby increasing their costs.
- County Waste of Virginia, which will utilize the Green Ridge facility, currently serves over 320,000 customer accounts, including VCU, University of Richmond, Liberty University, Lynchburg University, Frito Lay, DuPont, Altria and many of the Central Virginia home builders and home owner associations. Without the Green Ridge facility, costs to these entities will increase precipitously with the increased distance to a disposal facility and increased tipping fees because of the loss of competition. This is already happening. For example, VCU just procured disposal services which increased in 2019 from \$18.89/ton to \$44.30/ton - a reflection purely of cost increase in disposal and the loss of competition in the industry in Virginia.

¹ Reference <https://www.waste360.com/landfill-operations/supply-and-demand-drives-rising-tip-fees>

- Fuel costs will continue rising. Each additional mile traveled will cost citizens of the Commonwealth dollars and increase carbon footprints. The Green Ridge Facility is positioned to effectively and efficiently serve the Central and Southwest Virginia regions.
- The Code of Virginia sets forth the requirement to demonstrate need, and DEQ must consider not only years of remaining capacity but other relevant factors as well. The DEQ developed regulations to set out a protocol for demonstrating this need. The protocol needs to be updated to recognize the myriad of factors that play into the planning/permitting/construction of additional landfill capacity and the fact that the need for capacity is locally and regionally based and cannot only be considered on a state-wide basis. It must also consider the current concentration of ownership of private landfills and the impact that has on the Commonwealth and its residents and businesses.

DISCUSSION 2 – DEMONSTRATION OF NEED – 9VAC20-81-450.8.B.(1)

1.0 Demonstration that there is less than 10 years of remaining capacity in existing facility

As the Green Ridge Recycling and Disposal Facility has not been permitted nor constructed, there is less than 10 years of remaining capacity in the facility. Discussion above has provided information on the need for this facility.

2.0 The available permitted disposal capacity in the state is less than 20 years

As discussed above and indicated in the tables provided, there will be a shortage of capacity within 20 years. Numerous potential factors, which are not considered by DEQ have been outlined. Green Ridge has provided substantial evidence that the calculation is flawed. There is a dramatic shortage of capacity when these factors are considered and that there is also a crisis in competition within the private sector. Without additional capacity, tipping fees will rise as will public sector operating costs. The Commonwealth, its businesses and its citizens will be impacted. For further discussion for this section, Discussion 1 and the Preliminary Statement should be consulted.

APPENDIX A

ACTIVE SOLID WASTE FACILITIES IN VIRGINIA

**ACTIVE SOLID WASTE MANAGEMENT FACILITIES
AS OF 5/1/19**

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Accomack County	Harborton Solid Waste Receiving Facility	PBR527	Active	11/14/2006	11/14/2006	Barge Facility	Off-loading
Danville City	City Of Danville YWCF	PBR010	Active	1/11/1993	1/11/1993	Compost Facility	Feedstock Category I only
York County	VPPSA - YWCF - York County	PBR013	Active	8/16/1994	8/16/1994	Compost Facility	Feedstock Category I only
Prince William County	Prince William Co. Balls Ford Road Composting	PBR030	Active	7/27/1994	7/27/1994	Compost Facility	Feedstock Category I only
Newport News City	Newport News City - YWCF - Warwick Blvd	PBR096	Active	1/23/1996	1/23/1996	Compost Facility	Feedstock Category I only
Hanover County	Hanover County - 301 Solid Waste Facility	PBR512	Active	8/30/2004	8/30/2004	Compost Facility	Feedstock Category I only
Bristol City	Bristol Yard Composting Facility	PBR525	Active	9/5/2006	9/5/2006	Compost Facility	Feedstock Category I only
Augusta County	Black Bear Composting	PBR589	Active	10/21/2011	10/21/2011	Compost Facility	Feedstock Category II-IV
Gloucester County	Middle Peninsula Landfill and Recycling Center	PBR125	Active	2/17/1998	2/17/1998	Compost Facility	Feedstock Category I only
Loudoun County	Loudoun Composting	PBR141	Active	3/3/1999	3/3/1999	Compost Facility	Feedstock Category I only
Powhatan County	In-Vessel Composting Facility	PBR175	Active	9/19/2001	9/19/2001	Compost Facility	Feedstock Category II-IV
Chesterfield County	Watkins Nurseries Inc	PBR181	Active	10/3/2002	10/3/2002	Compost Facility	Feedstock Category II-IV
Bedford County	Royal Oak Farm Solid Waste Composting Facility	SWP601	Active	3/27/2008	12/21/2006	Compost Facility	Feedstock Category II-IV
Carroll County	Commonwealth Compost and Recycling Services Inc	PBR597	Active	1/20/2015	5/1/2014	Compost Facility	Feedstock Category II-IV
Prince William County	Commonwealth Recycled Aggregates	PBR616	Active	9/21/2017	9/21/2017	Compost Facility	Feedstock Category I only

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Albemarle County	Panorama Paydirt LLC	PBR632	Active	4/12/2019	4/12/2019	Compost Facility	Feedstock Category II-IV
Portsmouth City	Portsmouth City - Craney Island Landfill	SWP041	Active	1/5/1972	1/5/1972	CDD Landfill	
Fairfax County	Rainwater Concrete Debris Landfill	SWP327	Active	6/23/1981	6/23/1981	CDD Landfill	
Fairfax County	Rainwater Concrete Debris Landfill	SWP327	Active	6/23/1981	6/23/1981	CDD Landfill	
Montgomery County	Radford Army Ammo Plt Debris	SWP433	Active	5/23/1984	5/23/1984	CDD Landfill	
Prince William County	Potomac Landfill	SWP441	Active	8/6/1984	8/4/1984	CDD Landfill	
Roanoke County	Thomas Bros Debris LF	SWP445	Active	9/28/1984	9/28/1984	CDD Landfill	
Chesapeake City	Higgerson Buchanan Inc	SWP493	Active	1/2/1986	1/2/1986	CDD Landfill	
Goochland County	623 Landfill	SWP506	Active	3/20/1987	3/20/1987	CDD Landfill	
Henrico County	The East End Landfill	SWP524	Active	7/26/1988	7/26/1988	CDD Landfill	
Hanover County	Ashcake CDD LF	SWP574	Active	9/15/1994	9/15/1994	CDD Landfill	
Roanoke County	Country South	SWP581	Active	5/11/1995	5/11/1995	CDD Landfill	
Frederick County	Frederick County CDD Landfill	SWP591	Active	1/8/1998	1/8/1998	CDD Landfill	
Virginia Beach City	Centerville Turnpike CDD Landfill	SWP603	Active	7/16/2009	9/25/2008	CDD Landfill	
Chesterfield County	Taylor Road Landfill	SWP270	Active	7/6/1979	7/6/1979	CDD Landfill	
Fairfax County	Classified Waste Disposal System	PBR173	Active	6/20/2001	6/20/2001	Incinerator	
Arlington County	US Dept. of Defense - Pentagon SW Incinerator	PBR197	Active	8/17/2007	8/17/2007	Incinerator	
Roanoke City	John C Nordt Co Inc	PBR503	Active	3/3/2004	3/3/2004	Incinerator	
Giles County	Hoechst-Celanese Fibers	SWP207	Active	7/15/1976	7/15/1976	Industrial Landfill	
Warren County	Avtex Fibers	SWP357	Active - Other	7/1/1999	6/7/1982	Industrial Landfill	
York County	Plains Marketing LP Yorktown	SWP363	Active	6/21/1983	6/21/1983	Industrial Landfill	
Covington City	Westvaco Fly Ash #3	SWP394	Active	1/7/1983	1/7/1983	Industrial Landfill	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Suffolk City	John C. Holland Landfill	SWP280	Active	9/7/1979	9/7/1979	Industrial Landfill	
Pittsylvania County	First Piedmont	SWP065	Active	7/11/1972	7/11/1972	Industrial Landfill	
Covington City	Westvaco Fly Ash #2	SWP414	Active	6/20/1983	6/20/1983	Industrial Landfill	
York County	Virginia Electric and Power Co - Industrial LF	SWP457	Active	1/11/1985	1/11/1985	Industrial Landfill	
Isle of Wight County	International Paper - Landfill No 2	SWP504	Active	6/11/2007	7/30/1986	Industrial Landfill	
Botetourt County	Tarmac-Lonestar LF	SWP514	Active	3/14/1988	3/14/1988	Industrial Landfill	
Covington City	Westvaco Asbestos LF	SWP522	Active	6/28/1988	6/28/1988	Industrial Landfill	
Amherst County	Virginia Fibre	SWP536	Active	2/26/2008	9/30/1991	Industrial Landfill	
Fairfax County	Upper Occoquan Sewage Authority	SWP542	Active	8/5/1992	8/5/1992	Industrial Landfill	
King William County	WestRock CP LLC - Mann No. 3 Industrial Landfill	SWP543	Active	3/11/2008	9/14/1992	Industrial Landfill	
Bedford County	Georgia Pacific LF	SWP549	Active	6/13/2007	1/20/1993	Industrial Landfill	
Giles County	Hoechst-Celanese Fibers	SWP550	Active	1/19/1993	1/19/1993	Industrial Landfill	
Franklin County	Shredded Products Corp. ILF	SWP552	Active	3/27/2008	4/15/1993	Industrial Landfill	
Halifax County	Old Dominion Electric / Virginia Power	SWP556	Active	2/8/2007	9/23/1993	Industrial Landfill	
Hanover County	Bear Island Paper ILF	SWP573	Active	1/24/2006	5/5/1995	Industrial Landfill	
Covington City	WestRock Captive ILF No. 5	SWP595	Active	2/22/2008	4/16/1999	Industrial Landfill	
Wise County	Dominion VA Power Curley Hollow Landfill	SWP608	Active	3/11/2012	7/1/2009	Industrial Landfill	
Chesterfield County	CPS FFCP Management Facility	SWP609	Active	11/6/2017	6/29/2016	Industrial Landfill	
Fairfax County	Telegraph Road Landfill	SWP534	Active	11/13/1989	11/15/1989	Landfill Gas Recovery Facility [SW]	
Brunswick County	Brunswick Waste Management Facility LLC	SWP583	Active	3/4/1997	4/17/1995	Landfill Mining [SW]	
Loudoun County	Leesburg Transfer Station	PBR006	Active	4/2/1993	4/2/1993	Materials Recovery Facility	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
New Kent County	Virginia Recycling Corp	PBR039	Active	5/27/1994	5/27/1994	Materials Recovery Facility	
Richmond City	Aqua Clean Environmental of Virginia, LLC	PBR052	Active	1/7/1994	1/7/1994	Materials Recovery Facility	
Suffolk City	SPSA - Tire Processing Fac.	PBR072	Active	11/21/1994	11/21/1994	Materials Recovery Facility	
Chesapeake City	Waste Industries LLC	PBR077	Active	3/6/1995	3/6/1995	Materials Recovery Facility	
Loudoun County	Waste Management of Virginia - Sterling	PBR093	Active	7/22/1998	7/22/1998	Materials Recovery Facility	
Fluvanna County	BFI Fluvanna County Transcyclery	PBR099	Active	4/26/1996	4/26/1996	Materials Recovery Facility	
Alexandria City	Potomac Landfill Incorporated MRF	PBR101	Active	1/6/1999	1/6/1999	Materials Recovery Facility	
Loudoun County	Dulles Materials Recovery Facility	PBR102	Active	5/7/1996	5/7/1996	Materials Recovery Facility	
Montgomery County	Blue Ridge Disposal Inc.	PBR104	Active	7/29/1996	7/29/1996	Materials Recovery Facility	
Roanoke City	BFI- Roanoke Valley Materials Recovery Facility	PBR105	Active	3/23/1996	3/23/1996	Materials Recovery Facility	
Fredericksburg City	BFI Fredericksburg Recyclery	PBR107	Active	9/23/1996	9/23/1996	Materials Recovery Facility	
Fairfax County	USA Waste of Virginia - Fairfax MRF	PBR111	Active	12/13/1996	12/13/1996	Materials Recovery Facility	
Bristol City	Bristol Sanitary Landfill	PBR116	Active	8/13/1997	8/13/1997	Materials Recovery Facility	
New Kent County	County Waste MRF	PBR516	Active	5/26/2011	12/23/2004	Materials Recovery Facility	
Prince William County	CFP Limited Liability Corporation MRF	PBR521	Active	9/29/2005	9/29/2005	Materials Recovery Facility	
Norfolk City	United Disposal Wellman Street MRF	PBR522	Active	9/16/2005	9/16/2005	Materials Recovery Facility	
Fauquier County	Fauquier County CDD MRF	PBR528	Active	11/29/2006	11/29/2006	Materials Recovery Facility	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Fluvanna County	Van Der Linde Recycling	PBR531	Active	12/8/2008	11/18/2008	Materials Recovery Facility	
Hampton City	Spivey Disposal LLC	PBR533	Active	7/30/2007	7/30/2007	Materials Recovery Facility	
Prince William County	Broad Run Recycling LLC	PBR536	Active	10/19/2007	10/19/2007	Materials Recovery Facility	
Spotsylvania County	J and E Recycling Materials Recovery Facility	PBR537	Active	3/11/2008	3/11/2008	Materials Recovery Facility	
Culpeper County	AMRF Incorporated	PBR544	Active	12/3/2008	12/3/2008	Materials Recovery Facility	
Henrico County	S. B. Cox Recycling Center MRF	PBR546	Active	6/12/2008	6/12/2008	Materials Recovery Facility	
Appomattox County	Emanuel Tire of Virginia	PBR547	Active	12/15/2009	12/15/2009	Materials Recovery Facility	
Rockingham County	Green Earth Materials Recovery Facility	PBR549	Active	11/5/2008	11/5/2008	Materials Recovery Facility	
Charles City County	Green Zone Investments, LLC	PBR556	Active	6/9/2010	8/14/2009	Materials Recovery Facility	
Portsmouth City	Recycling and Disposal Solutions of Virginia (RDS)	PBR558	Active	7/20/2011	7/20/2011	Materials Recovery Facility	
Montgomery County	MRSWA - Tire Storage Facility	PBR559	Active	6/3/2009	6/3/2009	Materials Recovery Facility	
Fairfax County	W and N MRF	PBR563	Active	3/26/2010	3/26/2010	Materials Recovery Facility	
Radford City	The CFS Grp Blue Ridge Disposal and Recycling Services	PBR565	Active	6/10/2010	6/10/2010	Materials Recovery Facility	
Norfolk City	B&H Sales Corp	PBR567	Active	1/2/2013	1/2/2013	Materials Recovery Facility	
Chesapeake City	TFC Recycling	PBR568	Active	7/18/2011	7/18/2011	Materials Recovery Facility	
Chesterfield County	County Waste MRF	PBR571	Active	5/26/2011	5/26/2011	Materials Recovery Facility	
York County	S. B. Cox Yorktown Recycling Center	PBR572	Active	9/9/2011	9/9/2011	Materials Recovery Facility	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Hampton City	Bay Disposal LLC Hampton MRF	PBR588	Active	11/9/2011	11/9/2011	Materials Recovery Facility	
Petersburg City	Tri City Regional Material Recovery Facility	PBR590	Active	1/19/2012	1/19/2012	Materials Recovery Facility	
Brunswick County	Fiberight Waste Processing Facility	PBR592	Active	2/21/2012	2/21/2012	Materials Recovery Facility	
Roanoke County	Recycling and Disposal Solutions of VA - Roanoke	PBR594	Active	1/11/2013	1/11/2013	Materials Recovery Facility	
Portsmouth City	Norfolk Naval Shipyard - Building 1460	PBR135	Active	8/10/1998	8/10/1998	Materials Recovery Facility	
Suffolk City	Clearfield MMG, Inc. - Suffolk	PBR155	Active	7/22/1999	7/22/1999	Materials Recovery Facility	
Washington County	MXI Environmental Services, LLC	PBR180	Active	9/5/2002	9/5/2002	Materials Recovery Facility	
Portsmouth City	Wheelabrator Portsmouth Inc - Waste to Energy Fac	PBR500	Active	4/26/2005	4/26/2005	Materials Recovery Facility	
Shenandoah County	Shenandoah Co LF	SWP469	Active	4/5/1985	4/5/1985	Materials Recovery Facility	
Frederick County	Frederick County Sanitary Landfill	SWP529	Active	8/5/1989	8/5/1989	Materials Recovery Facility	
Pulaski County	NRRA Solid Waste Facility	SWP548	Active	1/19/1993	1/19/1993	Materials Recovery Facility	
Chesapeake City	Military Highway Recycling Center MRF	PBR596	Active	5/7/2014	5/7/2014	Materials Recovery Facility	
Norfolk City	Bay Disposal LLC Norfolk MRF	PBR598	Active	4/1/2015	12/10/2014	Materials Recovery Facility	
Goochland County	West End Resource Recovery Facility	PBR599	Active	2/27/2014	2/27/2014	Materials Recovery Facility	
Sussex County	Emanuel Tire of Virginia Inc	PBR603	Active	7/17/2014	7/17/2014	Materials Recovery Facility	
Chesapeake City	Select Recycling Waste Services MRF	PBR619	Active	5/18/2016	5/18/2016	Materials Recovery Facility	
Roanoke City	Recycling and Disposal Solutions of VA - Roanoke 2	PBR602	Active	4/19/2016	4/19/2016	Materials Recovery Facility	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Isle of Wight County	Bay Disposal LLC Smithfield MRF	PBR620	Active	6/16/2017	6/16/2017	Materials Recovery Facility	
Prince William County	Balls Ford Material Recovery Facility	PBR627	Active	1/19/2018	1/19/2018	Materials Recovery Facility	
Henrico County	Metal Extraction Facility	PBR631	Active	11/14/2018	11/14/2018	Materials Recovery Facility	
Chesterfield County	TFC - Chester Recycling Center	PBR623	Active	7/26/2017	7/26/2017	Materials Recovery Facility	
Chesapeake City	Clearfield, MMG Chesapeake	PBR622	Active	1/30/2017	1/30/2017	Materials Recovery Facility	
Prince William County	Independent Hill Landfill	SWP029	Active	10/29/1971	10/29/1971	Sanitary Landfill	
Virginia Beach City	Virginia Beach City - Landfill No 2 - 398	SWP398	Active	2/15/1983	2/15/1983	Sanitary Landfill	
Greensville County	Greensville Co LF #1	SWP405	Active	2/23/1983	2/23/1983	Sanitary Landfill	
Nottoway County	Nottoway Co SLF	SWP304	Active	7/7/1980	7/7/1980	Sanitary Landfill	
Harrisonburg City	Rockingham Co SLF	SWP062	Active	5/23/1972	5/23/1972	Sanitary Landfill	
Franklin County	Franklin Co LF	SWP072	Active	9/5/1972	9/5/1972	Sanitary Landfill	
Rockbridge County	Blue Ridge Resource Authority	SWP075	Active	9/22/1972	9/22/1972	Sanitary Landfill	
Fairfax County	I-95 Landfill	SWP103	Active	1/12/1995	4/20/1973	Sanitary Landfill	
Suffolk City	SPSA Regional LF	SWP417	Active	9/12/1983	9/12/1983	Sanitary Landfill	
Accomack County	Accomack County - Northern LF #2	SWP461	Active	2/22/1985	2/22/1985	Sanitary Landfill	
Shenandoah County	Shenandoah Co LF	SWP469	Active	4/5/1985	4/5/1985	Sanitary Landfill	
Bristol City	Bristol Sanitary Landfill	SWP498	Active	6/24/1986	6/24/1986	Sanitary Landfill	
Wise County	Wise County Sanitary Landfill	SWP513	Active	11/21/1987	11/21/1987	Sanitary Landfill	
Frederick County	Frederick County Sanitary Landfill	SWP529	Active	8/5/1989	8/5/1989	Sanitary Landfill	
Charles City County	Waste Management Charles City Landfill	SWP531	Active	9/18/1989	9/18/1989	Sanitary Landfill	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Amelia County	Maplewood Recycling and Waste Disposal Facility	SWP540	Active	10/10/2006	6/12/1992	Sanitary Landfill	
Lunenburg County	Lunenburg County Sanitary LF	SWP544	Active	11/20/1992	11/20/1992	Sanitary Landfill	
Spotsylvania County	Livingston Landfill No 2	SWP547	Active	6/28/2007	1/13/1993	Sanitary Landfill	
Pulaski County	NRRA Solid Waste Facility	SWP548	Active	1/19/1993	1/19/1993	Sanitary Landfill	
Henrico County	Old Dominion SLF & Resource Management Facility	SWP553	Active	7/28/2005	4/22/1993	Sanitary Landfill	
King and Queen County	King And Queen Sanitary Landfill	SWP554	Active	11/5/2007	6/2/1993	Sanitary Landfill	
Roanoke County	Smith Gap Regional SLF	SWP555	Active	5/17/2001	12/3/1993	Sanitary Landfill	
Bedford County	Bedford County SLF	SWP560	Active	12/3/1993	12/3/1993	Sanitary Landfill	
Sussex County	Atlantic Waste Disposal SLF	SWP562	Active	2/2/2006	12/29/1993	Sanitary Landfill	
Amherst County	Amherst County SLF	SWP563	Active	1/9/2003	1/21/1994	Sanitary Landfill	
Tazewell County	Tazewell County Sanitary Landfill	SWP564	Active	1/19/2005	3/2/1994	Sanitary Landfill	
Orange County	Orange County Sanitary Landfill	SWP566	Active	12/13/2012	4/29/1994	Sanitary Landfill	
Louisa County	Louisa County Landfill	SWP567	Active	11/2/2012	5/3/1994	Sanitary Landfill	
Bedford County	Town of Bedford (Hylton Site)	SWP569	Active	11/26/2001	6/10/1994	Sanitary Landfill	
Pittsylvania County	Pittsylvania Co SLF	SWP571	Active	6/29/2004	9/13/1994	Sanitary Landfill	
Gloucester County	Middle Peninsula Landfill and Recycling Center	SWP572	Active	2/25/2004	8/15/1994	Sanitary Landfill	
Franklin County	Franklin Co LF	SWP577	Active	7/8/2013	10/18/1994	Sanitary Landfill	
Page County	Page County Landfill- Battlecreek	SWP579	Active	9/21/2005	2/21/1995	Sanitary Landfill	
Hampton City	Bethel Landfill - Waste Management Incorporated	SWP580	Active	5/12/1995	5/12/1995	Sanitary Landfill	
Botetourt County	Botetourt County LF	SWP582	Active	5/11/1995	5/11/1995	Sanitary Landfill	
Brunswick County	Brunswick Waste Management Facility LLC	SWP583	Active	3/4/1997	4/17/1995	Sanitary Landfill	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Brunswick County	Brunswick Waste Management Facility LLC	SWP583	Active	3/4/1997	4/17/1995	Sanitary Landfill	
Prince Edward County	Prince Edward Co SLF	SWP584	Active	12/16/2004	7/6/1995	Sanitary Landfill	
Augusta County	Augusta County / Staunton Landfill No. 2	SWP585	Active	5/31/1995	5/31/1995	Sanitary Landfill	
King George County	King George Landfill Incorporated	SWP586	Active	11/12/1996	8/17/1995	Sanitary Landfill	
Chesterfield County	Shoosmith Sanitary Landfill	SWP587	Active	6/18/2007	12/6/1995	Sanitary Landfill	
Bristol City	Bristol Sanitary Landfill	SWP588	Active	10/29/2007	2/13/1996	Sanitary Landfill	
Stafford County	R-Board Sanitary Landfill	SWP589	Active	7/16/1996	7/16/1996	Sanitary Landfill	
Alleghany County	Peters Mountain Sanitary Landfill	SWP594	Active	9/7/1999	9/7/1999	Sanitary Landfill	
Carroll County	Carroll Grayson Galax Regional Landfill # 2	SWP605	Active	9/14/2010	11/28/2007	Sanitary Landfill	
Campbell County	Campbell County Regional Landfill	SWP610	Active	10/26/1979	3/19/2012	Sanitary Landfill	
Campbell County	Campbell County Regional Landfill	SWP610	Active	10/26/1979	3/19/2012	Sanitary Landfill	
Loudoun County	Loudoun County Solid Waste Management Facility	SWP001	Active	5/17/1971	5/17/1971	Sanitary Landfill	
Petersburg City	Petersburg City LF	SWP228	Active	7/18/1977	7/18/1977	Sanitary Landfill	
Fauquier County	Fauquier County Solid Waste Management Facility	SWP575	Active	2/2/2006	9/23/1994	Sanitary Landfill	
Mecklenburg County	SRPSA - Butcher Creek Sanitary Landfill	SWP598	Active	12/20/2007	7/25/2007	Sanitary Landfill	
Chesterfield County	Upper and Lower Ponds	SWP619	Active	10/19/2015		Surface Impoundment	Existing/New CCR
Fluvanna County	Dominion - Bremo Power Station	SWP618	Active	7/6/2016		Surface Impoundment	Existing/New CCR
Halifax County	Clover Power Station Sludge Stabilization Basins	SWP622	Active	5/18/2016	7/11/2017	Surface Impoundment	Existing/New CCR
Prince William County	Virginia Power - Possum Point Power Station	SWP617	Active	6/25/2016		Surface Impoundment	Existing/New CCR

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Giles County	Hoechst-Celanese Fibers	SWP623	Active	8/15/2018	8/15/2018	Surface Impoundment	Non-CCR
Washington County	Washington County Solid Waste Transfer Station	PBR003	Active	10/8/1993	10/8/1993	Transfer Station	
Tazewell County	Boissevain Transfer Station	PBR004	Active	10/25/1993	10/25/1993	Transfer Station	
York County	York County Transfer Station	PBR022	Active	6/16/1994	6/16/1994	Transfer Station	
Bedford County	Bedford Co. Transfer Station	PBR031	Active	12/9/1993	12/9/1993	Transfer Station	
Patrick County	Patrick Co. Solid Waste Ts	PBR032	Active	10/20/1993	10/20/1993	Transfer Station	
Warren County	Warren Co. Transfer Station	PBR033	Active	5/2/1994	5/2/1994	Transfer Station	
Smyth County	Smyth County Transfer Station	PBR041	Active	1/11/1994	1/11/1994	Transfer Station	
Wythe County	Wythe/Bland Solid Waste Ts	PBR044	Active	1/7/1994	1/7/1994	Transfer Station	
Bath County	Bath County Transfer Station	PBR045	Active	3/8/1994	3/8/1994	Transfer Station	
Dickenson County	Dickenson County Transfer Station	PBR049	Active	12/7/1994	12/7/1994	Transfer Station	
Floyd County	Floyd County Transfer Station	PBR050	Active	2/28/1994	2/28/1994	Transfer Station	
Nelson County	Nelson Co. Transfer Station	PBR051	Active	1/12/1994	1/12/1994	Transfer Station	
Westmoreland County	Westmoreland Co. TS	PBR069	Active	7/15/1994	7/15/1994	Transfer Station	
Accomack County	Accomack County - Bobtown Bailing Facility	PBR090	Active	4/10/1996	4/10/1996	Transfer Station	
Manassas City	Waste Management - Manassas Transfer Station	PBR091	Active	10/18/1995	10/18/1995	Transfer Station	
Alleghany County	Alleghany County Transfer Station	PBR103	Active	7/3/1996	7/3/1996	Transfer Station	
Buchanan County	Buchanan County Transfer Station	PBR106	Active	9/9/1996	9/9/1996	Transfer Station	
Accomack County	Accomack Northern Landfill Bailing Facility	PBR112	Active	4/8/1997	4/8/1997	Transfer Station	
Russell County	Russell County Solid Waste Transfer Station	PBR001	Active	5/13/1994	5/13/1994	Transfer Station	
Tazewell County	Cedar Bluff Transfer Station	PBR002	Active	10/25/1993	10/25/1993	Transfer Station	
Suffolk City	Suffolk Transfer Station	PBR518	Active	4/1/2005	4/1/2005	Transfer Station	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Martinsville City	First Piedmont Corp - Martinsville TS	PBR520	Active	8/12/2005	8/12/2005	Transfer Station	
Halifax County	Halifax County Transfer Station Facility	PBR539	Active	5/21/1992	8/26/2008	Transfer Station	
Northampton County	Northampton County Transfer Station	PBR540	Active	3/27/2009	3/27/2009	Transfer Station	
Scott County	Scott County Transfer Station	PBR548	Active	4/20/2009	4/20/2009	Transfer Station	
Fairfax County	I-66 Solid Waste Management Facility	PBR555	Active	10/26/1982	1/20/2009	Transfer Station	
Bristol City	Bristol Sanitary Landfill	PBR121	Active	1/10/1998	1/10/1998	Transfer Station	
Albemarle County	Ivy Materials Utilization Center	PBR132	Active	6/15/1998	6/15/1998	Transfer Station	
Roanoke City	LCM Transfer Station	PBR136	Active	12/8/1998	12/8/1998	Transfer Station	
Culpeper County	Laurel Valley Center	PBR140	Active	11/13/1998	11/13/1998	Transfer Station	
Montgomery County	MRSWA - Transfer Station	PBR149	Active	1/25/1999	1/25/1999	Transfer Station	
Madison County	Madison County Landfill and Transfer Station	PBR154	Active	5/19/1999	5/19/1999	Transfer Station	
Richmond City	Richmond Trans Stn-Hopkins Rd	PBR160	Active	2/11/2000	2/11/2000	Transfer Station	
Hanover County	Hanover County - 301 Solid Waste Facility	PBR189	Active	12/19/2002	12/19/2002	Transfer Station	
Virginia Beach City	SPSA - Oceana Transfer Station	PBR190	Active	12/20/2002	12/20/2002	Transfer Station	
Virginia Beach City	SPSA -Landstown Trans Station	PBR191	Active	1/13/2003	1/13/2003	Transfer Station	
Franklin City	SPSA - Franklin Transfer Station	PBR192	Active	1/29/2003	1/29/2003	Transfer Station	
Isle of Wight County	SPSA - Isle of Wight Transfer Station	PBR193	Active	1/29/2003	1/29/2003	Transfer Station	
Chesapeake City	SPSA - Chesapeake Transfer Station	PBR194	Active	1/13/2003	1/13/2003	Transfer Station	
Norfolk City	SPSA - Norfolk Transfer Station	PBR195	Active	1/29/2003	1/29/2003	Transfer Station	
Pittsylvania County	First Piedmont	PBR196	Active	1/14/2003	1/14/2003	Transfer Station	
Salem City	Salem Solid Waste Transfer Station	PBR501	Active	6/26/2006	6/26/2006	Transfer Station	

FIPS City / County	Site Name	Permit ID	Operating Status	Operating Status Date	Permit Issued Date	Unit Type	Unit Subtype
Craig County	Craig County Transfer Station	PBR508	Active	9/24/2004	9/24/2004	Transfer Station	
Greene County	Greene County Transfer Station	PBR509	Active	1/25/2005	11/14/2006	Transfer Station	
Southampton County	SPSA-Boykins Transfer Station	SWP484	Active	10/3/1985	10/3/1985	Transfer Station	
Southampton County	SPSA-Ivor Transfer Station	SWP539	Active	5/21/1992	5/21/1992	Transfer Station	
Roanoke City	Roanoke Transfer Station	SWP546	Active	5/13/1994	12/18/1992	Transfer Station	
Henrico County	Springfield Road Transfer Station	PBR591	Active	5/7/2014	5/7/2014	Transfer Station	
Lee County	Lee County Solid Waste Transfer Station	PBR070	Active	9/6/1994	9/6/1994	Transfer Station	
Williamsburg City	James City County Transfer Station	PBR021	Active	4/11/1994	4/11/1994	Transfer Station	
Bedford County	Town of Bedford Transfer Station	PBR529	Active	2/7/2007	2/7/2007	Transfer Station	
Fauquier County	Corral Farm Transfer Station	PBR625	Active	9/22/2017	9/22/2017	Transfer Station	
Harrisonburg City	City of Harrisonburg Transfer Station - Berry Rd	PBR628	Active	12/19/2017	12/19/2017	Transfer Station	
Fluvanna County	County Waste - Troy Transfer	PBR561	Active	6/27/2018	11/10/2009	Transfer Station	
Fairfax County	I-95 Energy Resource Recovery Facility	PBR545	Active	12/15/1992	5/18/2010	Waste to Energy Facility	
Alexandria City	Arlington/Alexandria Resource Recovery Facility	PBR551	Active	4/19/1993	5/18/2010	Waste to Energy Facility	
Portsmouth City	Wheelabrator Portsmouth Inc - Waste to Energy Fac	PBR500	Active	4/26/2005	4/26/2005	Waste to Energy Facility	
Hampton City	Hampton City - NASA Steam Plant	SWP297	Active	5/14/1980	5/14/1980	Waste to Energy Facility	

APPENDIX B
DEQ ANNUAL REPORT 2018
SELECTED TABLES

Table 1 – Solid Waste Managed in Virginia for All Reporting Facilities in Tons – 2018

Waste Type	Total Waste Received ⁵	Mined Materials	Onsite Management of Waste						Sent Offsite To Be:		Stored Onsite	
			Landfilled Onsite	Recycled ⁶ Onsite	Composted Onsite	Incinerated	Mulched	Other ⁷	Recycled Offsite	Treated, Stored, Disposed	Beginning of Year	End of Year
Municipal Solid Waste	13,856,312.45	150,165.95	8,384,463.89	940.05	831.42	2,205,583.09	0	133,427.62	123,753.66	3,149,302.84	8,823.79	17,071.15
Construction/Demolition/D	4,337,408.88	29,875.00	2,830,599.09	312,072.15	0	0	28,297.64	29,767.43	101,804.73	1,055,486.62	497,548.29	506,804.55
Industrial Waste	1,323,320.68	0	1,027,045.58	187,160.36	29,955.87	12,331.14	0	0	1,892.00	64,935.73	0	0
Incineration Ash	597,680.35	0	420,152.30	13.55	0	0	0	169,817.16	47,183.34	538,623.03	0	0
Other Waste	526,904.35	0	30,730.16	39,185.73	15,265.94	0	69.47	64,482.66	275,064.37	105,524.20	11,602.70	19,799.86
Petroleum Contaminated	502,743.16	0	13,560.45	13,948.01	122,485.11	0	217,869.11	18,790.72	39,072.17	8,203.53	105,092.50	173,253.82
Vegetative/Yard Waste	282,561.06	0	144,893.61	43,831.69	0	0	0	41,940.00	56,865.00	158.76	8,600.00	0
Sludge	240,217.01	0	222,557.07	0	16,654.06	0	0	0	0	1,005.88	0	0
Tires	94,816.70	0	479.37	21,886.59	0	0	0	1,800.86	62,929.82	7,238.38	2,245.05	2,618.73
White Goods	25,913.12	0	122.77	621.44	0	0	0	0	25,468.78	57.00	558.66	190.29
Regulated Medical Waste	10,058.91	0	10,053.29	0	0	0	0	0	0	12.30	12.12	5.44
Friable Asbestos	7,488.86	0	0	0	0	0	0	2,168.60	0	5,320.26	0	0
Total for 2018	21,805,425.52	180,040.95	13,084,657.57	619,659.56	185,192.40	2,217,914.2	246,236.21	462,195.05	734,033.87	4,935,868.53	634,483.11	719,743.83
Total for 2017	21,591,302.02	116,044.43	13,551,944.22	1,040,398.93	171,970.41	1,182,296.00	243,903.40	262,895.53	832,457.29	4,466,727.59	370,598.78	634,445.14

⁵ - The amount of "Total Waste Received" and "Stored Onsite at the Beginning of the Year" may not precisely match the sum of the reported amounts for the remaining columns (i.e., each method of managing the waste). This difference reflects information submitted in the reporting tables. In particular, incineration ash generated by an energy recovery facility or incinerator may be listed as "sent offsite to be treated, stored, or disposed" even though it was not received as ash at that facility. The total waste managed may be greater than the waste received due to ash generated at a facility. Vegetative/Yard Waste may be composted to produce a product that is not managed as a waste.

⁶ The majority of recycling takes place at facilities that do not require a permit from the Department and were not required to submit data for this report. Therefore, the amounts shown in this column represent a substantial underestimate of the true recycling rate in the Commonwealth. Table 20 provides more information. The annual recycling rate report for calendar year 2018 will be issued later this year.

⁷ "Other Onsite" methods of management may include steam sterilization of medical waste, approved use of shredded tires, and thermal treatment of petroleum contaminated soils, among others.

Table 2 – Jurisdiction of Origin of Waste Received in Tons – 2018

State or Territory	CDD	Friable Asbestos	Incineration Ash	Industrial	MSW	Other	PCS	RMW	Sludge	Tires	VW/YW	White Goods	Total Received
AL - Alabama	0	0	0	155.25	0	0	0	0	0	0	0	0	155.25
CN - Canada	0	0	0	0	43.00	0	0	0	0	0	0	0	43.00
CT - Connecticut	0	0	0	684.46	5,359.98	0	0	0	0	0	0	0	6,044.44
DC - District of Columbia	155,140.16	5,092.25	0	8,706.36	732,732.63	449.20	5,537.65	0	141.68	7.97	0	0	907,807.90
DE - Delaware	475.46	6.53	0	4,601.07	16,016.15	13.73	71.26	0	0	0	0	0	21,184.20
GA - Georgia	0	0	0	174.76	16.53	0	0	0	0	0	0	0	191.29
IL - Illinois	0	0	0	8.82	0	0	0	0	0	0	0	0	8.82
IN - Indiana	0	0	0	0.74	0	0	0	0.60	0	0	0	0	1.34
MA - Massachusetts	0	0	0	0.45	7,946.71	0	0	0	0	0	0	0	7,947.16
MD - Maryland	383,387.64	840.90	188,884.57	139,079.32	1,627,115.39	16.08	31,278.19	0	39,311.15	24.17	0	0	2,409,937.41
MO - Missouri	0	0	0	113.71	0	0	0	0	0	0	0	0	113.71
MS - Mississippi	0	0	0	165.97	0	0	0	0	0	0	0	0	165.97
NC - North Carolina	301.15	157.26	0	92,060.48	248,009.04	2,192.14	8,317.95	981.00	196.87	0	0	0	352,215.89
NH - New Hampshire	0	0	0	50.07	0	0	0.00	0	0	0	0	0	50.07
NJ - New Jersey	296.08	0	0	156,804.91	242,031.90	89.94	132.13	0	0	0	0	0	399,354.96
NY - New York	1,473.62	8.39	70.46	991.44	942,547.37	89.71	21.12	0	0	0	0	0	945,202.11
OH - Ohio	0	0	0	60.28	0	19.68	0	0	0	0	0	0	79.96
PA - Pennsylvania	871.73	55.58	69.17	12,572.72	1,946.49	121.26	5.51	0	0	0	0	0	15,642.46
RI - Rhode Island	0	0	0	0	567.00	0	0	0	0	0	0	0	567.00
SC - South Carolina	0	0	0	781.50	677.97	0.88	0	0	0	0	0	0	1,460.35
TN - Tennessee	3,946.52	0	0	1,990.46	25,839.06	186.70	0	363.30	23.41	38.74	843.07	0	33,231.26
TX - Texas	0	0	0	2.27	0	23.50	0	0	0	0	0	0	25.77
VT - Vermont	0	0	0	235.44	0	0	0	0	0	0	0	0	235.44
WV - West Virginia	110.52	0	0	416.14	1,904.94	0	13.00	0.30	0	0	0	0	2,444.90
2018 Total Other States	546,002.88	6,160.91	189,024.20	419,656.62	3,852,754.16	3,202.82	45,376.81	1,345.20	39,673.11	70.88	843.07	0	5,104,110.66
2018 Total Virginia	3,791,406.00	3,898.00	408,656.15	903,664.06	10,003,558.29	523,701.53	237,184.25	6,143.66	200,543.90	94,745.82	501,900.09	25,913.12	16,701,314.86
2018 Total All States	4,337,408.88	10,058.91	597,680.35	1,323,320.68	13,856,312.45	526,904.35	282,561.06	7,488.86	240,217.01	94,816.70	502,743.16	25,913.12	21,805,425.52
2017 Total Other States	755,470.99	815.71	354,320.78	368,094.58	3,430,073.59	12,251.52	161,032.62	815.21	22,224.07	191.52	1,385.83	0	5,106,676.42
2017 Total Virginia	4,011,835.08	4,858.30	374,307.25	821,793.71	9,588,976.62	570,276.96	325,145.39	6,642.91	225,132.43	99,883.54	430,984.36	24,789.05	16,484,625.60
2017 Total All States	4,767,306.07	5,674.01	728,628.03	1,189,888.29	13,019,050.21	582,528.48	486,178.01	7,458.12	247,356.50	100,075.06	432,370.19	24,789.05	21,591,302.02

Table 3 – Solid Waste Managed by MSW (Sanitary) Landfills in Tons – 2018

Waste Type	Total Waste Received	Mined Materials	Landfilled Onsite	Recycled Onsite	Composted Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Municipal Solid Waste	8,491,867.30	150,165.95	8,384,463.89	940.05	0	0	133,185.00	16,229.05	107,215.73	0	0
Construction/Demolition/Debris	1,001,380.69	0	927,810.80	29,291.04	0	0	23,268.09	0	27,702.23	30,611.50	23,920.03
Industrial Waste	923,375.38	0	736,215.02	187,160.36	0	0	0	0	0	0	0
Incineration Ash	597,680.35	0	420,152.30	13.55	0	0	169,817.16	7,697.34	0	0	0
Sludge	239,101.58	0	222,447.52	0	16,654.06	0	0	0	0	0	0
Vegetative/Yard Waste	169,756.75	0	2,055.13	13,680.10	10,389.26	95,264.13	12,704.48	30,787.80	0	8,743.85	13,620.70
Other Waste	108,709.54	0	30,730.16	11,269.39	0	0	58,065.31	4,235.03	674.37	21.00	3,756.28
Petroleum Contaminated Soil	92,952.72	0	49,121.03	43,831.69	0	0	0	0	0	0	0
Tires	16,087.19	0	355.17	442.66	0	0	1,800.86	6,768.06	6,250.77	1,205.10	1,566.77
White Goods	15,265.05	0	122.77	22.00	0	0	0	15,162.15	0	101.66	48.29
Friable Asbestos	9,606.26	0	9,606.26	0	0	0	0	0	0	0	0
2018 MSW Total	11,665,782.79	150,165.95	10,783,080.04	286,650.84	27,043.32	95,264.13	398,840.90	80,879.43	141,843.10	40,683.11	42,912.07
2017 MSW Total	11,821,281.29	25,487.43	10,717,291.08	580,291.04	31,044.15	82,009.40	211,019.42	64,503.26	131,905.55	12,726.52	41,431.34

Table 4 – Capacity and Remaining Life for MSW (Sanitary) Landfills – 2018

	Facility Name	Permit	Capacity in Tons as of 12/2018	Landfilled in 2018 Tons	Expected Remaining Permitted Life (Years)	Region
1	Accomack County Northern Landfill	SWP461	1,005,070.00	39,064.22	41	TRO
2	Amherst County Landfill Permit Number 563	SWP563	1,111,700.00	15,262.08	54	BRRO
3	Atlantic Waste Disposal Inc	SWP562	45,497,743.00	1,279,484.87	74	PRO
4	Augusta Regional Landfill	SWP585	4,345,585.00	140,114.74	34.8	VRO
5	Battle Creek Landfill	SWP579	2,687,096.00	50,570.00	58.8	VRO
6	Bedford County - Sanitary Landfill	SWP560	194,395.00	56,025.00	5.3	BRRO
7	Bedford Town - Hylton Site	SWP569	6,500.00	31.99	1	BRRO
8	BFI Old Dominion Landfill	SWP553	8,186,234.00	468,486.71	24.3	PRO
9	Blue Ridge Resource Authority	SWP075	2,020,382.14	40,500.72	59	VRO
10	Botetourt County Landfill	SWP582	12,012.50	3,595.00	2	BRRO
11	Bristol Integrated Solid Waste Management Facility	SWP588	2,043,996.50	145,763.94	28	SWRO
12	Bristol Integrated Solid Waste Management Facility	SWP498	0	0	2	SWRO
13	Brunswick Waste Management Facility LLC	SWP583	9,982,219.50	211,151.33	72	PRO
14	Carroll Grayson Galax Regional Landfill 2	SWP605	1,258,058.00	40,374.97	50	SWRO
15	Charles City County Landfill	SWP531	12,805,824.00	614,549.14	37	PRO
16	Covington City - Peters Mountain Landfill	SWP594	341,726.57	12,622.21	27.1	BRRO
17	Disposal and Recycling Services of Lunenburg	SWP544	1,150,000.00	92,461.70	5	PRO
18	Fauquier County Solid Waste Management Facility	SWP149	0	0	0	NRO
19	Fauquier County Solid Waste Management Facility	SWP575	316,495.00	7,843.69	32	NRO
20	Franklin County - Sanitary Landfill	SWP577	1,741,337.50	51,254.00	31	BRRO
21	Franklin County - Sanitary Landfill	SWP072	8,724.00	1,530.00	1	BRRO
22	Frederick County Landfill	SWP529	6,147,778.00	126,514.63	27	VRO
23	Greensville County Landfill	SWP405	307,259.11	24,206.89	15	PRO
24	Interstate 95 Landfill	SWP103	3,668,639.00	324,469.80	39.7	NRO
25	King and Queen Sanitary Landfill	SWP554	6,957,506.00	664,583.27	17	PRO
26	King George Landfill & Recycling Center	SWP586	16,795,933.50	1,699,050.27	22	NRO
27	Loudoun County Solid Waste Management Facility	SWP001	10,818,209.50	148,481.00	69	NRO
28	Louisa County Sanitary Landfill	SWP194	0	0	0	NRO
29	Louisa County Sanitary Landfill	SWP567	316,334.00	20,567.22	20.4	NRO
30	Maplewood Recycling and Waste Disposal	SWP540	16,397,337.00	232,231.87	148	PRO

31	Middle Peninsula Landfill and Recycling Facility	SWP572	13,995,988.00	519,784.56	52	PRO
32	New River Resource Authority Solid Waste Facility	SWP548	422,000.00	90,223.00	3.2	BRRO
33	Nottoway County Sanitary Landfill - Blackstone	SWP304	283,635.50	21,881.86	16	PRO
34	Orange County Sanitary Landfill	SWP566	1,684,030.50	29,699.00	33	NRO
35	Pittsylvania Co - Sanitary Landfill	SWP571	144,234.30	38,305.24	17	BRRO
36	Prince Edward County Sanitary Landfill	SWP584	173,500.00	31,129.54	6	PRO
37	Prince William County Sanitary Landfill	SWP029	5,171,743.50	396,058.00	13	NRO
38	Rappahannock Regional Solid Waste Management Board	SWP589	5,856,129.00	218,770.26	38	NRO
39	Region 2000 Regional Landfill - Livestock Rd Fac	SWP610	1,543,382.50	197,641.27	11.3	BRRO
40	Rockingham County Landfill	SWP062	4,403,426.00	135,605.92	35	VRO
41	Shenandoah County Landfill - Edinburg	SWP469	1,827,040.00	46,748.00	31.9	VRO
42	Shoosmith Sanitary Landfill	SWP587	20,050,000.00	1,002,544.00	30	PRO
43	Smith Gap Regional Landfill	SWP555	4,863,792.00	233,195.80	35	BRRO
44	Spotsylvania County Livingston Sanitary Landfill	SWP547	476,000.00	148,723.55	4.2	NRO
45	SPSA - Regional Landfill	SWP417	7,449,600.00	118,005.15	40.5	TRO
46	SRPSA - Butcher Creek Sanitary Landfill	SWP598	2,320,093.00	79,956.04	64	PRO
47	Tazewell County Landfill	SWP564	360,312.91	48,880.90	8.4	SWRO
48	Tri City Regional Disposal and Recycling Services	SWP228	500,000.00	210,579.00	5	PRO
49	USA Waste of Virginia Landfills - Bethel	SWP580	22,467,607.00	645,913.38	80	TRO
50	Virginia Beach City - Landfill No 2	SWP398	1,805,000.00	17,817.00	74	TRO
51	Wise County Sanitary Landfill	SWP513	240,000.00	40,827.32	12	SWRO
	MSW Landfill Total for 2018		252,161,609.03	10,783,080.04	23.4	
	MSW Landfill Total for 2017		247,799,918.01	10,717,291.08	23.1	

Table 5 – Solid Waste Managed by CDD Landfills in Tons – 2018

Waste Type	Total Waste Received	Mined Materials	Landfilled Onsite	Recycled Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Construction/Demolition/Debris	1,942,624.50	29,875.00	1,874,159.76	69,173.00	8,540.00	6,499.34	36,765.05	1,062.02	288,754.93	265,055.26
Petroleum Contaminated Soil	95,772.58	0	95,772.58	0	0	0	0	0	0	0
Other Waste	28,518.50	0	0	27,309.00	0	0	0	0	7,438.50	8,648.00
Vegetative/Yard Waste	22,189.57	0	11,505.32	174.25	10,406.25	0	0	0	652.75	103.75
Tires	169.91	0	124.20	0	0	0	46.71	0	4.00	3.00
Industrial Waste	31.94	0	31.94	0	0	0	0	0	0	0
2018 CDD Total	2,089,307.00	29,875.00	1,981,593.80	96,656.25	18,946.25	6,499.34	36,811.76	1,062.02	296,850.18	273,810.01
2017 CDD Total	2,819,348.85	90,557.00	2,517,608.49	227,515.02	27,922.43	4,237.59	42,908.08	1,450.10	207,933.29	296,197.43

Table 6 – Capacity and Remaining Life for CDD Landfills – 2018

	Facility Name	Permit	Capacity in Tons as of 12/2018	Landfilled in 2018 Tons	Expected Remaining Permitted Life (Years)	Region
1	623 Landfill	SWP506	10,536,096.60	600,797.83	19	PRO
2	Ashcake Road Landfill, Inc.	SWP574	699,000.00	89,175.00	10	PRO
3	Centerville Turnpike CDD Landfill	SWP603	3,732,641.40	321,818.94	13.8	TRO
4	Country South LLC - CDD Landfill	SWP581	1,407,476.23	5,868.43	243	BRRO
5	Frederick County Landfill	SWP591	2,157,903.60	50,309.02	30	VRO
6	Higgerson Buchanan Incorporated	SWP493	1,367,917.20	26,457.00	10	TRO
7	Lorton Construction Landfill	SWP331	0	490,382.17	0	NRO
8	Portsmouth City - Craney Island Landfill	SWP041	1,997,702.40	8,435.00	140	TRO
9	Potomac CDD Landfill	SWP441	540,000.00	172,225.00	10	NRO
10	Rainwater Landfill	SWP327	262,732.80	10,675.00	10	NRO
11	Taylor Road Landfill	SWP270	7,794,532.20	149,992.00	59	PRO
12	The East End Landfill	SWP524	140,503.80	55,458.41	3.3	PRO
13	Thomas Brothers Debris Landfill	SWP445	68,400.00	0	0	BRRO
	CDD Landfill Total for 2018		30,704,906.23	1,981,593.80	15.5	
	CDD Landfill Total for 2017		32,418,740.78	2,517,608.49	12.9	

APPENDIX C
SWIA INFORMATION
LANDFILL CAPACITY
MSW AND CDD LANDFILLS
2018

EVALUATION OF 2018 SWIA ANNUAL REPORT

Facility Name	Permit Number	Remaining Capacity in tons (Calculated by VDEQ)	Tonnage landfilled	Calculated years remaining (By GR)	Reported years remaining (By Landfill)
Accomack County Northern Landfill	SWP461	1,005,070	39,064	25.7	41.0
Amherst County Landfill Permit Number 563	SWP563	1,111,700	15,262	72.8	54.0
Atlantic Waste Disposal Inc (WMX)	SWP562	45,497,743	1,279,485	35.6	74.0
Augusta Regional Landfill	SWP585	4,345,585	140,115	31.0	34.8
Battle Creek Landfill	SWP579	2,687,096	50,570	53.1	58.8
Bedford County - Sanitary Landfill	SWP560	194,395	56,025	3.5	5.3
Bedford Town - Hylton Site	SWP569	6,500	32	203.2	1.0
BFI Old Dominion Landfill (Republic)	SWP553	8,186,234	468,487	17.5	24.3
Blue Ridge Resource Authority	SWP075	2,020,382	40,501	49.9	59.0
Botetourt County Landfill	SWP582	12,013	3,595	3.3	2.0
Bristol Integrated Solid Waste Management Facility	SWP498	0	0	0.0	2.0
Bristol Integrated Solid Waste Management Facility	SWP588	2,043,997	145,764	14.0	28.0
Brunswick Waste Management Facility LLC (Republic)	SWP583	9,982,220	211,151	47.3	72.0
Carroll Grayson Galax Regional Landfill 2	SWP605	1,258,058	40,375	31.2	50.0
Charles City County Landfill (WMX)	SWP531	12,805,824	614,549	20.8	37.0
Covington City - Peters Mountain Landfill	SWP594	341,727	12,622	27.1	27.1
Disposal and Recycling Services of Lunenburg (CFS)	SWP544	1,150,000	92,462	12.4	5.0
Fauquier County Solid Waste Management Facility	SWP149	0	0		0.0
Fauquier County Solid Waste Management Facility	SWP575	316,495	7,844	40.4	32.0
Franklin County - Sanitary Landfill	SWP072	8,724	1,530	5.7	1.0
Franklin County - Sanitary Landfill	SWP577	1,741,338	51,254	34.0	31.0
Frederick County Landfill	SWP529	6,147,778	126,515	48.6	27.0
Greensville County Landfill	SWP405	307,259	24,207	12.7	15.0
Interstate 95 Landfill	SWP103	3,668,639	324,470	11.3	39.7
King and Queen Sanitary Landfill (Republic)	SWP554	6,957,506	664,583	10.5	17.0
King George Landfill & Recycling Center (WMX)	SWP586	16,795,934	1,699,050	9.9	22.0
Loudoun County Sanitary Landfill	SWP001	10,818,210	148,481	72.9	69.0
Louisa County Sanitary Landfill	SWP194	0	0		0.0
Louisa County Sanitary Landfill	SWP567	316,334	20,567	15.4	20.4
Maplewood Recycling and Waste Disposal (WMX)	SWP540	16,397,337	232,232	70.6	148.0
Middle Peninsula Landfill and Recycling Facility (WMX)	SWP572	13,995,988	519,785	26.9	52.0
New River Resource Authority Solid Waste Facility	SWP548	422,000	90,223	4.7	3.2
Nottoway County Sanitary Landfill - Blackstone	SWP304	283,636	21,882	13.0	16.0
Orange County Sanitary Landfill	SWP566	1,684,031	29,699	56.7	33.0
Pittsylvania Co - Sanitary Landfill	SWP571	144,234	38,305	3.8	17.0

EVALUATION OF 2018 SWIA ANNUAL REPORT

Facility Name	Permit Number	Remaining Capacity in tons (Calculated by VDEQ)	Tonnage landfilled	Calculated years remaining (By GR)	Reported years remaining (By Landfill)
Prince Edward County Sanitary Landfill	SWP584	173,500	31,130	5.6	6.0
Prince William County Sanitary Landfill	SWP029	5,171,744	396,058	13.1	13.0
Rappahannock Regional Solid Waste Management Board	SWP589	5,856,129	218,770	26.8	38.0
Region 2000 Regional Landfill - Livestock Rd Fac	SWP610	1,543,383	197,641	7.8	11.3
Region 2000 Services Authority - Concord Turnpike	SWP558	0	0	0	0.0
Rockingham County Landfill	SWP062	4,403,426	135,606	32.5	35.0
Shenandoah County Landfill - Edinburg	SWP469	1,827,040	46,748	39.1	31.9
Shoosmith Sanitary Landfill (Shoosmith)	SWP587	20,050,000	1,002,544	20.0	30.0
Smith Gap Regional Landfill	SWP555	4,863,792	233,196	20.9	35.0
Spotsylvania County Livingston Sanitary Landfill	SWP547	476,000	148,724	3.2	4.2
SPSA - Regional Landfill	SWP417	7,449,600	118,005	63.1	40.5
SRPSA - Butcher Creek Sanitary Landfill	SWP598	2,320,093	79,956	29.0	64.0
Tazewell County Landfill	SWP564	360,313	48,881	7.4	8.4
Tri City Regional Disposal and Recycling Services (CFS)	SWP228	500,000	210,579	2.4	5.0
USA Waste of Virginia Landfills - Bethel (WMX)	SWP580	22,467,607	645,913	34.8	80.0
Virginia Beach City - Landfill No 2	SWP398	1,805,000	17,817	101.3	74.0
Wise County Sanitary Landfill	SWP513	240,000	40,827	5.9	12.0
TOTAL		252,161,610	10,783,080	23.4	Calculated
Private landfills		174,786,392	7,640,820		
% private of total		69.3%	70.9%		
Public landfills		77,375,218	3,142,260		
% public of total		30.7%	29.1%		
Facilities with ≤ 20 years of life remaining				Calculated	Reported
Private Capacity				53,639,674	8,607,506
Public Capacity				15,366,169	9,343,699
TOTAL CAPACITY				69,005,843	17,951,205
% total existing capacity				39.5%	10.3%
Tonnage for facilities with less than 20 years of life		5,727,534			
Significant difference in reported capacity between 2017 and 2018					
Private landfills					
Remaining life ≤ 20 years		Years			

TABLE C-2
SWIA INFORMATION 2018
CDD LANDFILLS

CDD Landfills				
Facility Name	Capacity in Tons as of 12/2018	Landfilled in 2018 Tons	Calculated life remaining	Reported life remaining
623 Landfill	10,536,097	600,797.83	17.5	19
Ashcake Road Landfill, Inc.	699,000	89,175.00	7.8	10
Centerville Turnpike CDD Landfill	3,732,641	321,818.94	11.6	13.8
Frederick County Landfill	2,157,904	50,309.02	42.9	30
Higgerson Buchanan Incorporated	1,367,917	26,457.00	51.7	10
Lorton Construction Landfill	0	490,382.17	0.0	0
Portsmouth City - Craney Island Landfill	1,997,702	8,435.00	236.8	140
Potomac CDD Landfill	540,000	172,225.00	3.1	10
Rainwater Landfill	262,733	10,675.00	24.6	10
Taylor Road Landfill	7,794,532	149,992.00	52.0	59
The East End Landfill	140,504	55,458.41	2.5	3.3
Thomas Brothers Debris Landfill	68,400	0	0.0	0
TOTAL	29,297,430	1,975,725.37	14.8	
Capacity lost at end of 20 years	15,648,242	Based on calculated life remaining		
% capacity off line	53.4%			
Annual tonnage facilities < 20 years of life			1,239,475	1,276,607
Deleted Country South - vegetative landfill only, private usage only				
Country South LLC - CDD Landfill	1,407,476	5,868.00	239.8	

APPENDIX D

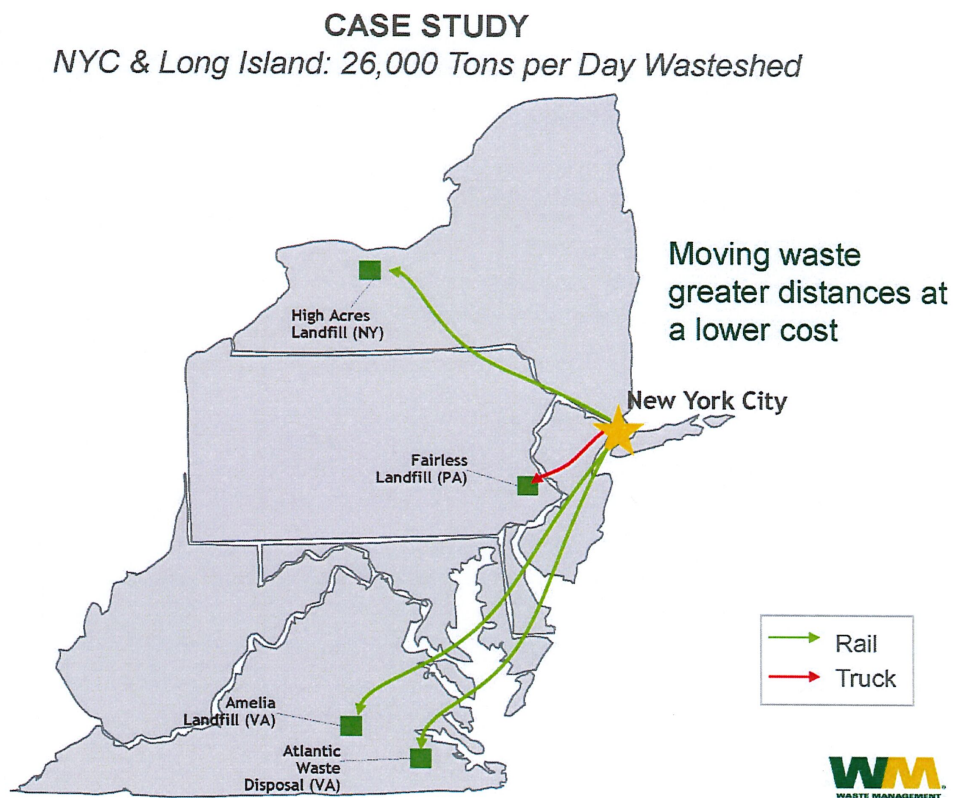
WMX FIGURE

1

LINKING GEOGRAPHY AND TRANSPORTATION IS A STRATEGIC ADVANTAGE

Well-placed assets in key markets fortify our sustainable competitive advantage

- Identifying different transportation combinations to reduce cost (e.g., examining the ability to rail from new origins to new destinations)
- Diversifying transportation portfolio to address macro pressures (e.g., trucking labor constraints, higher costs)
- Accessing our network to widen our view of disposal options



APPENDIX E
CVWMA LETTER



CENTRAL VIRGINIA
WASTE MANAGEMENT AUTHORITY

2100 West Laburnum Avenue, Suite 105, Richmond, Virginia 23227 • 804/359-8413 • Fax 804/359-8421 • www.cvwma.com

June 28, 2019

Jerry Cifor
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

RE: Central Virginia Waste Management Authority (CVWMA)
Landfill Capacity Reserve Letter for Green Ridge Recycling and
Disposal Facility, LLC

Dear Mr. Cifor:

On behalf of the thirteen member jurisdictions of the CVWMA (Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, Powhatan and Prince George, the Town of Ashland and the Cities of Colonial Heights, Hopewell, Petersburg and Richmond), please accept this letter as the response to your letters of May 1, 2019 to CVWMA member localities regarding the opportunity for CVWMA member jurisdictions to reserve disposal capacity in the proposed Green Ridge Recycling and Disposal Facility, LLC (Green Ridge).

CVWMA is in the process of updating the regional Solid Waste Management Plant (SWMP), and as a part of that process is evaluating its solid waste disposal needs for the next 20 years. While currently and for the foreseeable future there is adequate landfill airspace to accommodate our disposal needs in the region for the next twenty years, should the Green Ridge Landfill obtain a solid waste permit to operate from the Commonwealth of Virginia, jurisdictions of the CVWMA may need capacity in the future and would like to retain the ability to deliver municipal solid waste to the Green Ridge Landfill. CVWMA or member localities cannot at this time enter into a contract that stipulates or guarantees delivery or reservation of landfill capacity, until such time as deemed necessary and is procured in accordance with the Virginia Public Procurement Act.

One jurisdiction of the CVWMA, the County of Chesterfield, would like to specifically note that they generate approximately 35,000 tons of solid waste annually that could be delivered to the Green Ridge landfill at some point in the future. This is not a guarantee of tonnage and would require that a procurement be completed before a formal commitment could be made to Green Ridge Landfill.

If you have any questions regarding this letter, please do not hesitate to contact me at 804-612-0552.

Sincerely,

Kimberly A. Hynes
Executive Director



III. Purpose and Need

Section 3.2 Public Interest Served - The following report was prepared by Draper Aden Associates for Green Ridge Recycling and Disposal Facility, LLC. This report was prepared for the DEQ, Part A solid waste permit which was submitted on January 22, 2020. The report provides evidence of benefits to public interest which include items such as cost-effective waste management, increased capacity for recycling and waste management support of the host community. Included are letters of support from several counties and organizations.

ATTACHMENT PTA-XIX - PUBLIC INTEREST SERVED

A. REGULATORY REQUIREMENTS

Under the Part A submittal requirements (9VAC20-81-460.K) the applicant for a new solid waste management facility must provide indication that the public interest will be served in one or more of the categories identified in the regulation which include:

1. Cost effective waste management for the public within the service area comparing costs of a new facility or facility expansion to waste transfer, or other disposal option;
2. The facility provides protection of human health and safety and the environment;
3. The facility provides alternatives to disposal including reuse or reclamation;
4. The facility allows for the increased recycling opportunities for solid waste;
5. The facility provides for energy recovery or the subsequent use of solid waste, or both thereby reducing the quantity of solid waste disposed;
6. The facility will support the waste management needs expressed by the host community;
or
7. Any additional factors that indicate that the public interest would be served by the facility.

The service area for this facility (Facility) is defined via the Host Agreement between the Cumberland County Board of Supervisors and Green Ridge Recycling and Disposal Facility LLC (Green Ridge) approved by the Board on August 2, 2018 as amended on July 11, 2019. In that agreement, the service area is identified as by a 500-mile radius from the Facility excluding the states of New York and New Jersey.

Cumberland County as the host community has indicated its approval of the proposed Facility believing that it will be beneficial to the community and that it will serve the public. Specifically, three items have been cited in the benefits to the community:

Item 1: Cost Effective Waste Management

Cumberland County has been seeking options to mitigate the expenses of its solid waste program for years. In 2006, the County believed that it had an opportunity with Republic Waste Industries to mitigate these costs with Republic opening a landfill in Cumberland. The County also built a new school in anticipation of the Republic landfill. However, this opportunity fell through and Republic has withdrawn its permits. As a result, the County sought options to offset its costs and replace the expected revenue from the proposed Republic landfill upon which it was so heavily relying.

To highlight the need, reference is made here to the County's solid waste management plan which outlines the need for cost effective waste management. The local solid waste management plan (SWMP) covers a region defined as Prince Edward County and Cumberland County. Key statements from the SWMP relevant to this discussion include the following:

- *"The planning district within which Prince Edward and Cumberland Counties are part of is described as: "one of the most economically challenged regions in the State of Virginia." (Page 5)*
- *"Both Prince Edward County and Cumberland County are largely rural with few large industries and manufacturing facilities." (Page 5)*
- *"Scarcity of higher paying salaries continues to impact in a negative manner, a locality's or region's primary source of income – its tax base. This in turn, often inhibits growth in the locality or region because investments in needed infrastructures do not happen or are slow to occur." (Page 7)*
- *Environmentally-sound solid waste management within the two counties remains a significant public function that demands a continuing allocation of resources. (Page 7)*
- *"Along with highways, railroads, water, wastewater, schools and healthcare providers, well run and funded waste management facilities are an attraction to industrial, commercial and residential development." (underlining added for emphasis) (Page 7)*

As reflected in the County's SWMP, Cumberland County needs the Green Ridge Facility because it will provide the County with substantial and much needed revenues, jobs, and relief for the solid waste expenses of Cumberland County, thereby serving the local public interest.

In addition, the County's Host Agreement with Green Ridge outlines numerous ways in which the Cumberland County public will be served. Some of the ways that the public will be served as identified in the Host Agreement include (but are not limited to) the following:

- Section 1.6 – Convenience Center at landfill for free disposal by residents; drop off recycling center
- Section 1.7 – Free disposal for County government facilities
- Section 2.1 – Host Fees – based on tonnage and unit cost per ton
- Section 2.2 – Initial fees of \$100,000 to defray costs for negotiations
- Section 2.3 – Annual contribution - \$25,000 for environmental and science public education or other activity as may be agreed upon by both parties.
- Section 2.4 – Recreational Facilities Contribution and Economic Opportunities – reversion of at least 25 acres to the County at the time of closure for public use; annual payment of \$25,000/year for promotion of economic development; promotion of a training program with the community college system

- Section 3.1 – Landfill Liaison – reimbursement of up to \$100,000 per year for an employee who will inspect landfill operations

(Green Ridge would note that the anticipated total annual revenue to Cumberland County from the Green Ridge facility should be approximately 3 million dollars, which represents almost 20% of the County's current annual budget.)

Item 4: Increased Recycling

Cumberland County will be working with Green Ridge to enhance the County's recycling program. Funding under Section 2.3 of the Host Agreement and additional recycling at the landfill will allow the County to broaden its vision for recycling and expand services to the community. Without the support of Green Ridge (monetarily and operationally), Cumberland County simply could not afford to consider such enhancements. The increased recycling opportunities that Green Ridge would support will serve the public well.

Item 6: Facility Will Support Waste Management Need of Host Community

The Cumberland County Comprehensive Plan outlines a number of goals and objectives for the Cumberland community. Under Community Facilities, Objective 6 states: *"Develop and maintain appropriate public utilities to support current and future growth of all types in Cumberland County."* (Page 103) Policy 6.e states, *"Develop and maintain appropriate and cost effective solid waste management facilities, services and programs to serve the needs of citizens, businesses, industries and the environment."* The Green Ridge project (convenience center, recycling and disposal), as well as revenues generated by the project will help the County meet these objectives in addition to other goals outlined in the Cumberland Comprehensive Plan.

In short, Cumberland County firmly believes that the interests of the public will be served through the implementation of this project and has therefore supported it through the rezoning and conditional use permit approvals as well as a letter of written support urging DEQ's approval of Green Ridge's permit request.

B. LOCAL SUPPORT

In support of this project the following communities have provided letters of support or expressed interest in future capacity:

- Cumberland County – July 13, 2019
- CVWMA – June 28, 2019
- Hanover County – September 9, 2019
- Ashland – December 2, 2019

- Chesterfield County – December 3, 2019
- Rappahannock Regional Solid Waste Board – December 6, 2019
- Botetourt County – December 10, 2019
- Appomattox County – December 1, 2019

Copies of these letters are attached.

C. BROADER INTEREST SERVED

The public interest in the broader service area will also be well served by the Green Ridge Facility as outlined in the Preliminary Statement and Demonstration of Need included in Green Ridge's Notice of Intent. Key ways in which the broader public interest will be served include:

- As indicated in the Preliminary Statement and Demonstration of Need in the Notice of Intent, solid waste disposal for Cumberland County is a drain on its limited resources. The Green Ridge facility will offer relief to the County in a number of ways, including reduced disposal and recycling costs, as well as substantial revenues from the host fee and jobs. Cumberland County needs this project and actively supports it.
- Relative to the Cumberland/Prince Edward Region, Cumberland County currently transfers to the Shoosmith Landfill whose future expansion is under litigation; Prince Edward County operates its own landfill with a reported remaining life of 6 years. Thus, the Green Ridge landfill will support this region's solid waste plan once permitted and constructed.
- Contiguous solid waste regions rely heavily on private sector facilities which may or may not be able to support their 20 year goals. Region 2000 has less than 20 years of remaining life and at this time it appears highly doubtful that an expansion will be allowed by the host community. Green Ridge will support this region. In addition, members of the Central Virginia Waste Management Authority, which includes Henrico, Hanover, Goochland, Powhatan, Chesterfield Counties (to name a few), rely heavily on the Shoosmith and Old Dominion landfills, which will reach capacity in the next 20 years (Shoosmith will likely close within the next 3-4 years in light of a recent adverse court decision). The CVWMA therefore has expressed interest in the guaranteeing disposal capacity in the Green Ridge landfill.
- From Initiation of a project to its construction, an increase in landfill capacity can take at least 5–6 years (or longer depending on the project). Capacity is always being consumed. New capacity will always be needed. Green Ridge will provide that needed capacity.
- Several major disposal facilities are currently struggling with local politics and land use issues relative to expansions, including the Shoosmith Landfill, the East End Landfill, and Region 2000. In addition, DEQ has revoked the permit of the Tri-Cities Landfill because of reoccurring violations. Many are rightly concerned about the loss of Shoosmith capacity and its ripple effects through Central Virginia because Shoosmith lost a recent circuit court case involving Chesterfield County's denial of a local certification needed to expand into Shoosmith's proposed quarry cell. Other localities, such as Amherst County, have determined not to utilize their remaining capacity, but to move to a transfer operation

followed by landfill closure. There may be other facilities making decisions that impact available capacity. Green Ridge's capacity will therefore serve the greater good as capacity continues to be lost.

- Many public sector landfills have defined (restricted) service areas and cannot accept waste from out of their service area. This capacity is therefore not available to others in Virginia and should not be a factor in the 20 year calculation. Green Ridge will fill such voids in capacity.
- Tipping fees and disposal costs for local governments are determined by competition and available capacity. Currently, only two companies control almost all of the private waste disposal capacity in Virginia. The Green Ridge facility is needed to increase competition.
- County Waste of Virginia, which will utilize the Green Ridge Recycling and Disposal Facility, currently serves over 237,000 residential accounts as well as VCU, University of Richmond, Liberty University, Lynchburg University, Frito Lay, DuPont, Altria and a plethora of Central Virginia home builders and home owner associations. Without the Green Ridge facility, costs to these entities will increase with the increased distance to a disposal facility and increased tipping fees because of the loss of competition. Indeed, this is already happening. VCU just procured disposal services which increased in 2019 from \$18.89/ton to \$44.30/ton, a reflection purely of cost increased in disposal and the loss of competition in the industry in Virginia.
- Fuel costs will continue rising. Each additional mile traveled will cost citizens of the Commonwealth dollars and increase carbon footprints. The Green Ridge Facility is exceptionally positioned to effectively and efficiently serve the Central and Southwest Virginia region.
- The Green Ridge facility will be open to all localities in Virginia. It is not exclusive like most public landfills. As public landfills reach capacity and as the costs to own and operate a public landfill increase, localities in Virginia will be seeking alternative disposal capacity that is cost effective. Green Ridge will be able to provide such cost effective capacity.
- An assured, cost effective waste disposal system is needed for economic development. Green Ridge will expand the options for commercial and industrial development through its hauling, recycling, and disposal operations.
- The Northeast is in the midst of a crisis vis a vis its disposal capacity, and will need additional options for disposal of its waste. Virginia is likely to get inundated by out-of-state waste as a result, making the need for the Green Ridge project that much more stark.
- As explained at length in Green Ridge's Preliminary Statement to the Demonstration of Need, it is anticipated that within 3-4 years, 99% of Virginia's private landfill capacity will be controlled by just two companies. The Green Ridge facility will not only provide much needed waste disposal capacity, but also will create much needed competition, lowering

Green Ridge Recycling and Disposal Facility
Part A Permit Application

Attachment PTA-XIX
Public Interest Served
Page 6

waste disposal costs for local and state governments as well as citizens and businesses in the Commonwealth.



County of Cumberland Virginia

1 Courthouse Circle |
P.O. Box 110
Cumberland, Virginia 23040
Telephone 804 492 3800
Facsimile 804 492 9224
cumberlandcounty.virginia.gov

William F. Osl, Jr.
District 1

Lloyd Banks Jr.
District 2

William K. "Kevin" Ingle
District 3

David E. Meinhard
District 4

Parker H. Wheeler
District 5

July 13, 2019

Mr. James Golden, Regional Director
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

Mr. Jason Miller, Land Protection Manager
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

Re: Green Ridge Recycling and Disposal Facility
Part A Application – PTA Attachment XIX – Discussion of Public Interest Served

Dear Mr. Golden and Mr. Miller:

Cumberland County is writing this letter to provide information and support for the Part A application of Green Ridge Recycling and Disposal Facility, LLC (Green Ridge) for the construction and operation of a municipal sanitary landfill in Cumberland County. Specifically, Green Ridge must address how the public interest will be served by the landfill, a matter which was considered by Cumberland County officials upon deliberating the Green Ridge rezoning and the conditional use permit applications. The Board of Supervisors of Cumberland County, supported by staff, specifically considered the following items which also are considerations for your Department under 9VAC20-81-460.K:

1. **Cost effective waste management:** Currently Cumberland County spends in excess of \$600,000 per year for the hauling and disposal of its solid waste. This cost is a significant percentage of our local revenues, which total just under \$13,000,000, and constitutes the county's greatest single contractual expense. The Board, when considering the facility, discussed the benefit that a local municipal solid waste facility will provide, not only to Cumberland County, but also to other localities which will be able to use the facility. Tipping fees appear to be on the rise, which could only be exacerbated by reducing solid waste disposal capacity in the Commonwealth. In short, Cumberland County, like all localities, must plan now for efficient and low-cost solid waste disposal solutions for the future. In fact, this consideration has been so important to Cumberland County planning that the Cumberland County Comprehensive Plan even provides in pertinent part that one objective of the county is to "[d]evelop and maintain appropriate and cost effective solid waste management facilities, services and programs to serve the needs of citizens, businesses, industries and the environment." The Green Ridge project will help the county achieve this objective.



2. **Increased recycling opportunities.** Cumberland County is committed to maximizing recycling opportunities for citizens and providing services to assist with environmental quality in the county. For example, once, and sometimes twice, each year, the county hosts a tire collection day. Citizens are encouraged to bring old tires to be recycled, with each citizen being permitted to bring, free of charge, up to one hundred tires. In addition, recycling containers are provided for citizens at each solid waste collection site. And toward the goal of increasing recycling efforts, Cumberland County ensured that there was language in the Green Ridge Host Agreement for the continued provision of recycling containers and services (paragraph 1.6) and funding for environmental and science education. Finally, and because the county continues to explore ways to encourage recycling, staff is exploring with a private partner an opportunity to optimize the recycling of plastic, which Green Ridge representatives have committed to support as well.
3. **Support the waste management need of the host community.** Management of solid waste is the second greatest total departmental expense in Cumberland County, second only to the sheriff's department. Because the Green Ridge facility will provide disposal of the county's solid waste at no charge, leaving only the hauling for the county to be responsible for, the facility will provide a significant benefit to the county's budget. Disposal fees will be eliminated, and the expectation is that hauling will cost significantly less as the hauling distances will be reduced greatly. Further, construction of the Green Ridge facility will ensure not only a less expensive disposal option, but also will ensure that there is, in fact, a disposal option available at all. Upon the publication of the county's last request for bids for the provision of solid waste disposal service, only three companies, including Green Ridge affiliated company County Waste, expressed an interest in bidding. It is not uncommon for there to be only one or two bidders for services in Cumberland County, which has become a constant and growing concern, not just for the disposal of solid waste, but for many services the county needs. However, because the disposal of solid waste is an absolute need, not to mention an environmental concern, the county places high importance on identifying an environmentally responsible manner in which to dispose of its municipal solid waste for decades to come. The Green Ridge facility will ensure the County will have that option at a manageable cost.

In closing, the Board of Supervisors of Cumberland County, Virginia approved on June 28, 2018 the Green Ridge rezoning and conditional use permit applications for the construction and operation of a municipal sanitary landfill. On August 2, 2018, the Cumberland County Board of Supervisors approved a Host Agreement with Green Ridge, which agreement was amended on July 11, 2019. Cumberland County supports the Green Ridge facility in Cumberland County because the County assumes that with oversight by the Virginia Department of Environmental Quality, the facility will be constructed and operated in an environmentally responsible manner. Cumberland County consistently endeavors to work collaboratively with state agencies, and this project is no exception. The County is grateful for the expertise and assistance of DEQ on this and all projects and requests support and assistance in return on the Green Ridge project. We thank you.

Sincerely,

Vivian Seay Giles, J.D., LL.M.
County Attorney| County Administrator



**APPOMATTOX COUNTY
BOARD OF SUPERVISORS**

P.O. Box 863, Appomattox, VA 24522 Phone: (434) 352-2637
www.AppomattoxCountyVA.gov

December 1, 2019

Mr. Jerry Cifor
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

RE: Appomattox County Letter of Support for the Green Ridge Recycling and Disposal Facility

Dear Mr. Cifor:

On behalf of Appomattox County, I am writing in support of the Green Ridge Recycling and Disposal Facility that your company is seeking to have permitted by the Virginia Department of Environmental Quality ("DEQ"). Appomattox County currently participates in the Region 2000 Service Authority, and the landfill that Region 2000 operates will reach capacity in approximately eight (8) years. Appomattox County currently generates approximately 5,300 tons of municipal solid waste annually, and that number is expected to increase. The Green Ridge facility represents an important option for Appomattox that needs to be available as Appomattox strives to meet its future waste disposal needs.

Moreover, County Waste of Southwest Virginia, LLC ("County Waste") recently obtained a conditional use permit to operate a transfer station in Appomattox County as well as a convenience center for County residents. Appomattox County has a Host Agreement with County Waste for that transfer station under which the County receives a fee for each ton of waste brought to the Appomattox transfer station. The transfer station represents a substantial, much needed revenue source for the County, and the transfer station will to a large extent rely on the Green Ridge facility.

In addition, most of the private landfill capacity in Virginia is controlled by two companies. The proposed Green Ridge Recycling and Disposal facility represents an opportunity to substantially lower waste disposal costs by increasing much needed competition.

In short, Appomattox County strongly supports your company's request for a DEQ permit to construct and operate a municipal solid waste landfill in Cumberland County, and you may submit this letter of support to DEQ in seeking any necessary permits for the facility.

Best Regards,

A handwritten signature in cursive script that reads "Susan M. Adams".

Susan M. Adams, County Administrator

APPOMATTOX RIVER DISTRICT
William H. Hogan

COURTHOUSE DISTRICT
Samuel E. Carter

FALLING RIVER DISTRICT
Chad E. Millner

PINEY MOUNTAIN DISTRICT
Watkins M. Abbott, Jr.

WRECK ISLAND DISTRICT
Bryan A. Moody



Billy W. Martin, Sr.
Chair

Donald M. "Mac" Scothorn
Vice-Chairman

Richard G. Bailey DMV
Steve P. Clinton
I. Ray Sloan

Office of the Administrator

57 South Center Drive
Daleville, Virginia 24083
December 10, 2019

Virginia DEQ
Richmond, Virginia

To whom it concerns,

I write this letter in support of the Green Ridge project in Cumberland County. The project is the result of years of planning with a vision for the future from the leadership of County Waste and should be allowed to move forward as planned for the benefit of all involved.

County Waste entered into a management agreement with Botetourt County to operate and close the County Landfill. County Waste has been a fabulous partner in this process and I know their leadership can own/operate the Green Ridge project. They have the knowledge, history and resources to fully develop the state of the art facility and bring additional prosperity to Cumberland County. The multiplied benefits of County Waste paying taxes, operating a landfill in the locality and the locality being paid on a per ton basis, is a great deal for the locality. We also feel certain that the Cumberland operation will assist Botetourt (and other localities) meet future waste disposal needs and will support the Transfer Station in Botetourt.

Landfills are complicated and it takes a firm like County Waste to tackle the project with a professional plan of action to make it work.

If the work in Botetourt County is any indication of the work that will take place in Cumberland, the DEQ, Cumberland County and the citizens of the community will be pleased. I would personally be happy to provide further details of the positive relationship Botetourt County has with County Waste if needed.

(540) 928-2006
GLarrowe@BotetourtVA.gov
BotetourtVA.gov

Sincerely,

A handwritten signature in black ink that reads "Gary Larrowe". The signature is written in a cursive style with a large initial 'G'.

Gary Larrowe
County Administrator
Botetourt County, Virginia

(540) 928-2006
GLarrowe@BotetourtVA.gov
BotetourtVA.gov



Chesterfield County, Virginia

Joseph P. Casey, Ph.D., County Administrator
9901 Lori Road – P.O. Box 40 – Chesterfield, VA 23832-0040
Phone: (804) 748-1211 – Fax: (804) 717-6297 – Internet: chesterfield.gov

BOARD OF SUPERVISORS

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Matoaca District

DOROTHY JAECKLE
Bermuda District

CHRISTOPHER M. WINSLOW
Clover Hill District

JAMES M. "Jim" HOLLAND
Dale District

December 3, 2019

Mr. Jerry Cifor
County Waste, Inc.
12230 Deergrove Road
Midlothian, VA 23112

Subject: Green Ridge Landfill Capacity Reserve – Chesterfield County

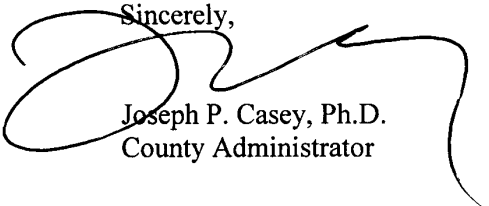
Dear Mr. Cifor:

Chesterfield County currently generates 35,000 tons of Municipal Solid Waste annually from our convenience centers in Chesterfield and related solid waste from County and School facilities. In addition, our citizens generate an additional 254,000 tons annually utilizing a variety of haulers, of which the Shoosmith Landfill is a large recipient of such solid waste. Both of these tonnage figures are expected to increase annually. As we approach the end of our MSW disposal contract in 2023, there will likely be fewer regional options for disposal due to facilities reaching capacity or closing; such as the Shoosmith Landfill. We understand that County Waste will also be fully utilizing this landfill until it reaches capacity in approximately five years.

The proposed Green Ridge Recycling and Disposal facility represents an opportunity to increase waste disposal capacity significantly in Central Virginia, and increase competition, thus providing a potential cost benefit to our county, its residents, and businesses in connection with their waste disposal needs.

We appreciate being considered as a potential future user of the Green Ridge Recycling and Disposal Facility and would like to preserve the option of disposal at that facility for future procurement. We also respect state and local approval processes for any such facility. Please contact county staff with any questions or clarifications regarding this request.

Sincerely,



Joseph P. Casey, Ph.D.
County Administrator

BOARD OF SUPERVISORS

W. CANOVA PETERSON, CHAIRMAN
MECHANICSVILLE DISTRICT

SCOTT A. WYATT, VICE CHAIRMAN
COLD HARBOR DISTRICT

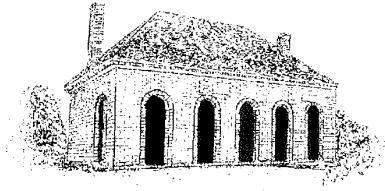
SEAN M. DAVIS,
Henry District

WAYNE T. HAZZARD
SOUTH ANNA DISTRICT

ANGELA KELLY-WIECEK
Chickahominy District

FAYE O. PRICHARD
ASHLAND DISTRICT

AUBREY M. STANLEY
BEAVERDAM DISTRICT



HANOVER COURTHOUSE

HANOVER COUNTY

ESTABLISHED IN 1720

COUNTY ADMINISTRATOR'S OFFICE

CECIL R. HARRIS, JR.
COUNTY ADMINISTRATOR

FRANK W. HARKSEN, JR.
DEPUTY COUNTY ADMINISTRATOR

KATHLEEN T. SEAY
DEPUTY COUNTY ADMINISTRATOR

JAMES P. TAYLOR
DEPUTY COUNTY ADMINISTRATOR

WWW.HANOVERCOUNTY.GOV

P.O. BOX 470, HANOVER, VA 23069
7516 COUNTY COMPLEX ROAD, HANOVER, VA 23069

PHONE: 804-365-6005
FAX: 804-365-6234

September 9, 2019

Green Ridge Recycling and Disposal Facility, LLC
Attn: Mr. Cifor
12230 Deerhill Road
Midlothian, Virginia 23112

Re: Landfill Capacity Reserve Letter – Hanover County

Dear Mr. Cifor:

Hanover County currently generates approximately 51,600 tons of Municipal Solid Waste annually. By 2023 we anticipate this amount to increase to approximately 55,850 tons. We are currently committed to a contract for disposal and hauling through 2023. Before that contract ends, we will need to re-procure services for both disposal and hauling. Regionally, there will likely be reduced options for disposal as we approach that important procurement due to facilities reaching capacity or otherwise closing and therefore an additional option is important.

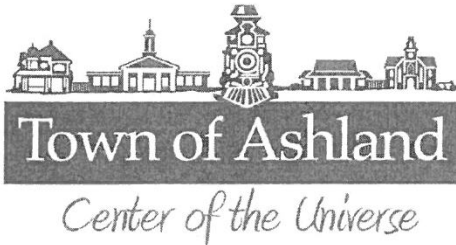
Hanover County would like to preserve the option of disposal at the Green Ridge Recycling and Disposal Facility for future procurement. We believe adequate capacity will allow for healthy competition within the marketplace, which is important as we approach the 2023 horizon. This use of the Green Ridge Recycling and Disposal Facility is contingent upon the results of a successful bid through a competitive solicitation process in accordance with the Virginia Public Procurement Act.

We appreciate the opportunity to be considered as a potential future user of the Green Ridge Recycling and Disposal Facility. If there are any questions regarding this request, please let me know.

Sincerely,

Cecil R. Harris, Jr.
County Administrator

Hanover: People, Tradition and Spirit



101 THOMPSON STREET
P.O. BOX 1600
ASHLAND, VIRGINIA 23005-4600

TELEPHONE (804) 798-9219
FAX (804) 798-4892

December 2, 2019

STEVEN P.
TRIVETT
MAYOR

Green Ridge Recycling and Disposal Facility, LLC
ATTN: Mr. Jerry Cifor
12230 Deerhill Road
Midlothian, VA 23112

JOHN H.
HODGES
VICE-MAYOR

RE: Landfill Capacity Reserve Letter – Town of Ashland

GEORGE F.
SPAGNA, JR.
COUNCIL MEMBER

Dear Mr. Cifor,

KATHLEEN K.
ABBOTT
COUNCIL MEMBER

The Town of Ashland currently generates approximately 1800 tons of Municipal Solid waste annually. We anticipate the amount of solid waste generated annually to increase to approximately 2000 tons by 2024. Our current contract for disposal and hauling services runs through June of 2024. Before the current contract ends, we will need to go through the procurement process for both disposal and hauling services.

DANIEL W.
MCGRAW
COUNCIL MEMBER

The Town of Ashland would appreciate having the option of using the Green Ridge Recycling and Disposal Facility for our municipal solid waste disposal needs as we go through the competitive bid process. We do have a need regionally for more landfills in the future and having options should keep our pricing down.

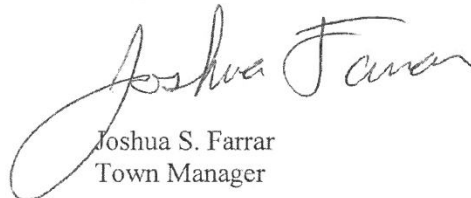
JOSHUA S.
FARRAR
TOWN MANAGER

ANDREA E.
ERARD
TOWN ATTORNEY

Therefore, we would appreciate the ability to be considered as a future user of the Green Ridge Recycling and Disposal Facility. If you have any questions regarding this request, please let me know.

MATTHEW G.
REYNAL
CLERK OF COUNCIL

Respectfully,



Joshua S. Farrar
Town Manager

www.ashlandva.gov



CENTRAL VIRGINIA
WASTE MANAGEMENT AUTHORITY

2100 West Laburnum Avenue, Suite 105, Richmond, Virginia 23227 • 804/359-8413 • Fax 804/359-8421 • www.cvwma.com

June 28, 2019

Jerry Cifor
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

RE: Central Virginia Waste Management Authority (CVWMA)
Landfill Capacity Reserve Letter for Green Ridge Recycling and
Disposal Facility, LLC

Dear Mr. Cifor:

On behalf of the thirteen member jurisdictions of the CVWMA (Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, Powhatan and Prince George, the Town of Ashland and the Cities of Colonial Heights, Hopewell, Petersburg and Richmond), please accept this letter as the response to your letters of May 1, 2019 to CVWMA member localities regarding the opportunity for CVWMA member jurisdictions to reserve disposal capacity in the proposed Green Ridge Recycling and Disposal Facility, LLC (Green Ridge).

CVWMA is in the process of updating the regional Solid Waste Management Plant (SWMP), and as a part of that process is evaluating its solid waste disposal needs for the next 20 years. While currently and for the foreseeable future there is adequate landfill airspace to accommodate our disposal needs in the region for the next twenty years, should the Green Ridge Landfill obtain a solid waste permit to operate from the Commonwealth of Virginia, jurisdictions of the CVWMA may need capacity in the future and would like to retain the ability to deliver municipal solid waste to the Green Ridge Landfill. CVWMA or member localities cannot at this time enter into a contract that stipulates or guarantees delivery or reservation of landfill capacity, until such time as deemed necessary and is procured in accordance with the Virginia Public Procurement Act.

One jurisdiction of the CVWMA, the County of Chesterfield, would like to specifically note that they generate approximately 35,000 tons of solid waste annually that could be delivered to the Green Ridge landfill at some point in the future. This is not a guarantee of tonnage and would require that a procurement be completed before a formal commitment could be made to Green Ridge Landfill.

If you have any questions regarding this letter, please do not hesitate to contact me at 804-612-0552.

Sincerely,

Kimberly A. Hynes
Executive Director





Rappahannock Regional Solid Waste Management Board

489 Eskimo Hill Road • Stafford, Virginia 22554 • 540-658-5279 • FAX 540-658-4523

December 6, 2019

County Waste Green Ridge Recycling and Disposal Facility
Attn: Jerry Cifor
12230 Deergrove Rd.
Midlothian VA 23112

The Rappahannock Regional Landfill (R-Board) is a regional body that serves the waste management needs for the City of Fredericksburg and Stafford County. Our main focus is in landfilling and moving recyclables to processors.

County Waste is a customer to our landfill and provides waste hauling and recycling services for the commercial businesses and residents of Fredericksburg and Stafford County. They have always been a good environmental steward to our service area and responsive to all service requests. They currently bring in over 4,500 tons per month to our landfill and have always been in good standing with payments.

We have worked with them on community outreach projects such as our Earth Day events which will draw thousands of people each year. They assist with free waste and recycling collection. They also do activities for community events.

They run a transfer station for waste and recycling nearby in Spotsylvania. This has been a valuable resource for the area.

In our experience working with them we feel they are a reliable entity in our waste management community and hope they will continue to provide service to our region.

Respectfully,

Joe Buchanan
R-Board Director

Additional Letters Received Following Submission of the Part A Application



COUNTY OF AMHERST



Department of Public Works

Telephone (434) 846-3324

Fax (434) 846-8710

Amherst County Public Works
715 Kentmoor Farm Road
P. O. Box 779
Madison Heights, Virginia 24572

March 16, 2020

Green Ridge Recycling and Disposal Facility
12230 Deerhill Road
Midlothian, VA 23112

Re: County of Amherst solid waste letter

Amherst County will be transitioning from operating our own solid waste landfill to a new transfer station by the end of 2021. At that time, we will need to haul our waste to a regional landfill. The new Green Ridge Recycling and Disposal Facility offers an opportunity for Amherst County to dispose of solid waste within the region. Last year alone, Amherst County received nearly 32,000 tons of solid waste at the County landfill.

Competition generally presents more options for counties like Amherst, and allows for the ability to lower costs to the county and its constituents. We look forward to the potential of using the Green Ridge Recycling and Disposal Facility when our transfer station opens.

Please contact me if you have any questions.

C. Brian Thacker
Director of Public Works

County of Dinwiddie

BOARD OF SUPERVISORS

DANIEL D. LEE
BRENDA EBRON-BONNER
HARRISON A. MOODY
DR. MARK E. MOORE
WILLIAM D. CHAVIS



COUNTY ADMINISTRATOR

W. KEVIN MASSENGILL

FOUNDED 1752

February 14, 2020

Mr. Jerry Cifor
Green Ridge Recycling and Disposal Facility, LLC
12230 Deergrove Road
Midlothian, Virginia 23112

Re: Landfill Capacity Reserve for Dinwiddie County

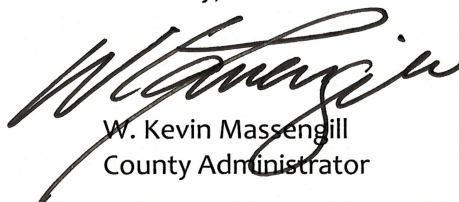
Dear Mr. Cifor,

Dinwiddie County is a growing community. Last year the County produced approximately 18,000 tons of municipal solid waste. We believe that number will continue to increase each year. The County is under contract for solid waste disposal until the end of 2023. At the time that we will need to procure solid waste disposal services, we recognize that the availability of options for disposal in our region will be reduced due to facilities reaching their capacity or otherwise closing.

As County Administrator, It is important that Dinwiddie County protect the option of disposal at the Green Ridge Recycling and Disposal Facility for future procurement. Therefore, I would like to express Dinwiddie County's support for the Green Ridge Recycling and Disposal Facility. It would be a tremendous asset regionally, as healthy competition is necessary to promote fair and equitable pricing.

As municipal solid waste production continues to grow in Dinwiddie County, we would appreciate your consideration as a potential future user of the Green Ridge Recycling and Disposal Facility. Should you have any questions regarding this request, please feel free to contact me directly at 804.469.4500, Ext. 2105, or kmassengill@Dinwiddieva.us.

Sincerely,



W. Kevin Massengill
County Administrator

P. O. DRAWER 70 ■ DINWIDDIE, VIRGINIA 23841 ■ TELEPHONE (804) 469-4500 ■ FAX (804) 469-4503

WWW.DINWIDDIEVA.US



COUNTY OF BEDFORD, VIRGINIA

County Administration Building

122 East Main Street, Suite 202

Bedford, Virginia 24523

Tel: (540) 586.7601

ROBERT HISS

COUNTY ADMINISTRATOR

OFFICE OF THE COUNTY ADMINISTRATOR

April 22, 2020

Jerry Cifor
County Waste, Inc.
12230 Deergrove Rd.
Midlothian, VA 23112

RE: Support for the Green Ridge Disposal and Recycling Facility

Dear Mr. Cifor:

On behalf of Bedford County, I am writing in support of the Green Ridge project in Cumberland County. Bedford County currently operates its own permitted municipal solid waste landfill that is quickly nearing its capacity. The County currently disposes of nearly 50,000 tons per year and will need options to dispose of this waste in the future. Since other affordable and convenient alternatives are in short supply, the Green Ridge facility represents an important option for Bedford County as we strive to meet our future solid waste disposal needs. In addition, this proposed facility represents an opportunity to increase waste disposal capacity significantly in Central Virginia, and increase competition, thus providing a potential cost benefit to our county, its residents, and businesses in connection with their waste disposal needs.

We appreciate the opportunity to be considered as a potential future user of the Green Ridge facility. In conclusion, Bedford County strongly supports your company's request for a DEQ permit to construct and operate a municipal solid waste landfill in Cumberland County.

Sincerely,

Robert Hiss
County Administrator



CITY OF COLONIAL HEIGHTS

OFFICE OF THE CITY MANAGER

Douglas E. Smith
City Manager

City Hall • 201 James Avenue • P.O. Box 3401
Colonial Heights, Virginia 23834

January 30, 2020

Mr. Jay Zook
County Waste
12230 Deerhill Road
Midlothian, Virginia 23112

RE: Green Ridge Recycling and Disposal Facility

Dear Mr. Zook:

On behalf of the City of Colonial Heights, please accept this letter regarding the proposed Green Ridge Recycling and Disposal Facility.

The City of Colonial Heights is a participating member of the Central Virginia Waste Management Agency (CVWMA), and our municipal solid waste collection and disposal operations are provided through CVWMA contracts. Additional disposal options can help foster competition, and the City of Colonial Heights would like to retain the ability to have municipal solid waste from our City delivered to the Green Ridge Landfill. However, the City cannot at this time enter into a contract that stipulates or guarantees delivery or reservation of landfill capacity, until such time as deemed necessary and procurement is done in accordance with the Virginia Public Procurement Act.

If the City can provide any further information, please let me know.

Sincerely,

Douglas E. Smith
City Manager

Phone 804-520-9265 • Fax 804-520-9207
www.colonialheightsva.gov

Received by VMRC September 2, 2020 /blh

Chair
R. Clay Jackson

Vice-Chair
Charlotte Hoffman

BOARD MEMBERS
Amber Foster
Kevin McGhee
Carty Yowell



Madison County Board of Supervisors

Jack Hobbs
County Administrator

Sean D. Gregg
County Attorney

302 Thrift Road
P. O. Box 705
Madison, Virginia 22727
(540) 948-7500 (ph)
(540) 948-3843 (fax)

February 12, 2020

Greene Ridge Recycling & Disposal Facility, LLC
Attn: Mr. Coifor
12230 Deerhill Road
Midlothian, VA 23112

RE: Landfill Capacity Reserve Letter - Hanover County


Dear Mr. Coifor:

Madison County currently generates approximately 6,044 tons of Municipal Solid Waste annually. By 2024, we anticipate this amount to increase to approximately 8,881 tons. We are currently committed to a contract for disposal and hauling through 2024. Before that contract ends, we will need to re-procure services for both disposal and hauling. Regionally, there will likely be reduced options for disposal as we approach that important procurement due to facilities reaching capacity or otherwise closing and therefore, an additional option is important.

Madison County would like to preserve the option of disposal at the Green Ridge Recycling and Disposal Facility for future procurement. We believe adequate capacity will allow for healthy competition within the marketplace, which is important as we approach the 2024 horizon. This use of the Green Ridge Recycling and Disposal Facility is contingent upon the results of a successful bid through a competitive solicitation process in accordance with the Virginia Public Procurement Act.

We appreciate the opportunity to be considered as a potential future user of the Green Ridge Recycling and Disposal Facility. If there are any questions regarding this request, please let me know.

Sincerely,


R. Clay Jackson
Chairman

COUNTY OF PRINCE GEORGE, VIRGINIA

Percy C. Ashcraft
County Administrator
Phone: (804) 722-8600
Facsimile: (804) 732-3604



BOARD OF SUPERVISORS

Floyd M. Brown, Jr.
Alan R. Carmichael
Donald R. Hunter
Marlene J. Waymack
T. J. Webb

April 20, 2020

Mr. Jay Zook
County Waste, Inc.
12230 Deerhill Road
Midlothian, VA 23112

Re: Green Ridge Recycling and Disposal Facility Permit Application


Dear Mr. Zook:

The County of Prince George currently generates approximately 1,916 tons of municipal solid waste annually. We anticipate the amount of solid waste generated by our County will continue to increase annually. Our current contract for disposal and hauling services runs through January 10, 2022. Before the current contracts ends, we will need to go through the procurement process for both the operation of our transfer station and for hauling services.

The County would appreciate having the option of using the Green Ridge Recycling and Disposal Facility for municipal solid waste disposal needs as we go through the competitive bid process. We do have a need regionally for more landfills in the future and having options for competitive bids keeps pricing down for our citizens.

We appreciate being considered as a potential future user of the Green Ridge Recycling and Disposal Facility and would like to preserve the option of disposal at that facility for future procurement. We also respect state and local approval processes for any such facility, and will follow the permitting process for your proposed facility as it moves forward.

Sincerely,


Percy C. Ashcraft
County Administrator

IV. ALTERNATIVE SITES ANALYSIS

The following analysis discusses the advantages and disadvantages of several alternative sites that were considered when siting the project area for the Green Ridge Recycling and Disposal Facility.

The analysis will begin with a discussion of the three alternative options that were available for permitting and will conclude by discussing the three alternate sites that were previously considered for this project. These sites include an option for the expansion of an already existing sanitary landfill and will provide reasoning as to why this was not a feasible option for the Green Ridge Facility. Finally, the analysis will discuss the chosen site for the project and why this site is best option for development of the Green Ridge Recycling and Disposal Facility.

IV. Avoidance and Minimization

Section 4.1 Alternative Sites Analysis - The following Alternative Site Analysis was prepared by Draper Aden Associates for Green Ridge Recycling and Disposal Facility, LLC. This report provides information on the various alternative sites that were considered for this project and includes an analysis on the option of "No construction."

PTA Attachment XVII
Landfill Impact Statement
Green Ridge Recycling and Disposal Facility
Permit No. (Pending)
Cumberland County, Virginia



Prepared For:
Green Ridge Recycling
and Disposal Facility, LLC
12230 Deer Grove Road
Midlothian, Virginia 23112

Prepared By:
Draper Aden Associates
1030 Wilmer Avenue, Suite 100
Richmond, Virginia 23227

December 9, 2019



Draper Aden Associates
Engineering • Surveying • Environmental Services

SIGNATURE/CERTIFICATION

Qualified Groundwater Scientist:

I certify that I have prepared or supervised preparation of the attached report, that it has been prepared in accordance with industry standards and practices, and that the information contained herein is truthful and accurate to the best of my knowledge.

Certified this 9th day of December, 2019

Name: Kenneth E. Bannister, CPG

Signature: *Kenneth E Bannister*

Professional Certification Type and Number: Professional Geologist, Virginia, 2801001751

Company: Draper Aden Associates

Address: 1030 Wilmer Avenue, Suite 100

City/State/Zip: Richmond, Virginia 23227

Seal:



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1.0 EXECUTIVE SUMMARY

Green Ridge Recycling and Disposal Facility, LLC (Green Ridge) is seeking permit approval to construct and operate a privately-owned solid waste disposal facility (Facility) in Cumberland County (County), Virginia. Draper Aden Associates (DAA) has prepared this Landfill Impact Statement (LIS) for Green Ridge in accordance with the requirements of the Code of Virginia, §10.1-1408.4.A.2 and B.6, and the *Virginia Solid Waste Management Regulations* (VSWMR) §9 VAC 20-81-460.H, Part A Landfill Permit Application. This LIS is a standalone document and satisfies a portion of the requirements for the Part A Permit Application, Attachment XVII, as required by the Virginia Department of Environmental Quality (DEQ), Solid Waste Permitting, Submission Instruction No. 1, Procedural Requirements for a New or Modified Solid Waste Management Facility (SWMF) Permit Application.

The purpose of the LIS is to assess the potential environmental impacts of the proposed sanitary landfill on existing parks and recreational areas, wildlife management areas, critical habitat areas of endangered species as designated by applicable local, state, or federal agencies, public water supplies, marine resources, wetlands, historic sites, fish and wildlife, water quality, and tourism within a five-mile radius of the Facility. In addition, appropriate state agencies were contacted to request their opinion on the impact of the Facility on the resources listed above. Findings by those agencies along with studies conducted by consultants hired by Green Ridge are presented herein, along with an evaluation of landfill siting, configuration alternatives, and feasibility. Potential negative impacts identified in the studies and potential solutions to those impacts are discussed.

The proposed Facility site is located in eastern Cumberland County, in Clinton, Virginia. The site is comprised of 13 parcels totaling approximately 1,178 acres north of U.S. Route 60 (Anderson Highway), and loosely bounded by Route 654 (Pinegrove Road) and Route 685 (Miller Lane). Current conceptual plans envision approximately 238 acres being dedicated to the waste disposal unit (disposal footprint). A large portion of the site has been subjected to growing and harvesting timber. Green Ridge has received approval of a Conditional Use Permit from the County to construct and operate a landfill at the proposed Facility. The Conditional Use Permit addresses special conditions for development of the Facility.

The County and Green Ridge executed a Host Agreement (Agreement) on August 2, 2018 as amended on July 11, 2019 (**NOI-PTA ATTACHMENT VI**). The Agreement outlines the provisions under which the County and Green Ridge will forge a long-term relationship that will be beneficial to both parties. The County will receive financial stability through guaranteed income in the form of host fees, reduced solid waste disposal costs, a long-term disposal option, and increased job opportunities for residents of the area.

By conducting a thorough site screening and selection process, evaluation of potential impacts to regulatory-specified area resources, and confirmation of the findings with the appropriate agencies, no negative impacts are anticipated that would not be addressed and mitigated as part of the various permitting and approval processes. Simply put, the site evaluation process supports one of the main objectives of the project: to provide a Facility that serves the public interest by providing the County with a reliable and substantial source of revenue, which can be used to offset costs of needed infrastructure